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FACIAL DERMATITIS IN SHEEP

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During January of this year an opportunity was afforded of making first-hand observations on facial dermatitis in sheep, and since comparatively little has been written on this disease, and as the ætiology of the condition still remains somewhat obscure, an account of the disease, particularly as occurring on the hill country runs in an area of Central Otago, is considered not without interest to those engaged in investigating sheep diseases.

HISTORY.—The disease has been known for upwards of 20 years both in the North and South Islands of New Zealand, and was first reported by Dr. J. A. Gilruth.*

In the South Island it has been largely, if not entirely, confined to the Serpentine District of Central Otago and to the Benmore District of North Otago, where it has become known as "Benmore Disease." It was met with by sheep-owners and shearers in the latter district 40 years ago.

The actual number of sheep affected in a flock is usually comparatively small, although 10 per cent. may sometimes have the disease. It is not uncommon to find a higher percentage of wethers affected, as, unlike the ewes, they spend practically the whole year on the mountains. The disease occurs on several stations that run up to a height of 3,000 feet above sea level. The hill country does not present any peculiarities, being very similar to other sheep runs in the South Island, and consisting largely of rough rocky country with a good growth of silver and snow tussock and danthonia. It is very dry country in this area, the average rainfall for the last 20 years being 18·51 inches. The lagoons throughout the hill country were all dry and it is only after heavy rains, and in the spring, as the result of snow melting, that they contain water. On one run a considerable quantity of dead tussock and danthonia was found throughout, and large patches would be met with on different parts of the mountain. A growth of a short type of lichen was seen on most of the dead grass.

At the beginning of January the sheep on this run consisted of a flock of full-mouthed cross-bred wethers numbering 270, which were mustered on January 10th, 1933, and brought down to the irrigated paddock country at the homestead 1,000 feet above sea level. After the shearing muster in December the ewe flock had remained in the paddocks. None of the ewes was affected. Twenty-seven, or 10 per cent. of the wethers were affected with facial dermatitis; about half the affected sheep showed the disease in a mild form, which consisted of a swollen nose and face. The swellings were soft, probably owing to the fact that recovery was taking place by the date of inspection (January 16th, 1933).

The other affected sheep had extensive lesions when brought down from the high country, but all the diseased sheep showed considerable improvement in less than one week of being removed to the paddocks. Had the sheep been left on the mountains for another week there would have been an increase in the number of cases and an extension of the lesions on the sheep already affected would have resulted.

All the sheep had recovered, with one exception, by January 27th, 1933. In the Serpentine District especially, the disease may be called a "hill disease," as it occurs in this area only on runs about 3,000 feet above sea level and where the flock does not have access to low country. The snow-line fences may literally be described as the line of demarcation between "susceptible" and "non-susceptible" country. In the Benmore district, however, the disease occurs on one block of country, ranging from 1,600-2,000 feet and not at the higher levels.

ÆTIOLOGY.—The diseases that most closely resemble facial dermatitis in sheep are those conditions associated with plant poisoning, more particularly where a special protein of the plant is concerned.

The first of these diseases is simply a temporary derangement of health in lambs fed on rape, in which the chief symptom is swelling of the ears. The other condition is the disease met with in cows and characterised by intense irritation, the appearance of an exudate over the eyes, ears, nose and perineal region, and resulting in the sloughing of large areas of the skin of the udder, and sometimes of the head and face. As this condition is associated with photosensitisation, photosensitisation may reasonably be included as a factor in the ætiology of facial dermatitis in sheep, although in my opinion of secondary importance to plant poisoning. Diseases of this type include clover poisoning, St. John's wort poisoning, and buckwheat poisoning.

* Gilruth, J. A. Report of the Department of Agriculture, N.Z., 1906, 299, and 1908, 188.

DEPT. OF VET. MEDICINE

It appears probable that a lichen or fungus in the grass is a cause of the disease and that it is destroyed by the annual burning of the tussock. Bacteria of various descriptions have been found in the lesions by different investigators, but these have all been secondary invaders and are of no ætiological significance.

Symptoms.—Sheep of any breed and sheep of all ages may be affected. The first symptom noticed is a hard swelling of the face and nose before any break in the skin occurs.

The swelling may commence on the nose and extend upwards. It is accompanied by intense irritation, causing the animals to rub their faces against convenient objects, such as rocks, and to scratch the head with the hind feet. This may be done while the sheep is lying. The skin immediately above the eyes is frequently scratched off in this way.

Facial dermatitis becomes apparent to the casual observer when abrasions of the skin occur and when the skin of the face becomes dark in colour as the result of death and commencing sloughing. There is, however, often considerable difficulty in mustering when the disease exists in a flock and affected sheep will frequently hide behind rocks, etc., and this will lead the owner to suspect the disease.

The general health of sheep appears to be little affected when they have been on the paddocks for several days, but when they are left on the mountains there appears to be a tendency towards general weakness and loss of condition, with death in some cases. The skin frequently sloughs off in one large piece and leaves a comparatively hairless pink epidermal covering. In other cases the skin sloughs off in small patches or scales. Both the upper and the lower lips may be affected, but usually the disease is more apparent on the upper lip. The ears are affected in the majority of cases and part of the ear—frequently half—may slough off. In most cases the ears merely show a necrotic appearance at the tip. The eyelids also become affected and drop off. When pressure is applied to a dead piece of skin or other lesion, a small quantity of clear blood-stained fluid will sometimes exude from its under surface. These lesions can be readily removed with a knife, thus giving rise to profuse bleeding if sufficient time has not elapsed for resolution to take place under the scab. When the scabs and dead skin have been rubbed from the face the clean pink skin of a previously badly-affected sheep will be seen. This condition is particularly noticeable in a flock where sheep are recovering from the disease.

In very bad cases the whole of the nose and face, from the nostrils and upper lip to a line on the face on a level with the eyes, is covered with a thick dark-coloured scab, and death may occur from inability of the animal to eat and breathe properly as the result of the extensive affection of the skin of the lips and nose.

Following the sloughing of the skin, secondary lesions of a vesicular nature occur in severe cases. The skin over these lesions is whitish in colour, there is a small quantity of exudate under this part of the skin and the surrounding tissue has the appearance of a commencing necrosis. These secondary lesions result in further scab formation, which scabs ultimately become detached from the underlying healthy tissue. Hæmorrhage occurs readily on the removal of recently and definitely formed scabs, but less readily on puncturing the secondary lesion.

When sheep have been down from the high country for about a fortnight they have practically recovered from the disease, unless it is very severe. The general opinion is that it takes five to six weeks in the paddocks to effect a complete recovery.

One sheep had been left on the hills a fortnight longer than the others. It is an interesting fact that it was showing some improvement where a large piece of the skin was becoming detached from the face, but there were two points, one on each side of the nose, showing a considerable amount of suppuration. Contrary to the findings among the sheep in the same flock, the general health of this sheep was affected. It was very thin and would drop down on being exerted. The lips were not affected with the disease and, as far as could be ascertained, there was no direct hindrance to prehension.

One case was seen to be affected in the region of the poll, all the wool having come out in that part. The lower part of the limbs showed signs of the disease through the hair coming out, although no definite sloughing had occurred. Improvement was noticeable in this sheep, as a healthy skin had taken the place of the diseased tissue on the poll.

Two cases with horny growths on the nose about two inches long were seen this season. As sheep may be affected with fresh lesions and show the horny growths as indicative of a previous season's infection, this appears sufficient confirmation that one attack does not confer an immunity. This observation would be of greater significance if there were sufficient reason to suspect the disease of being of bacterial origin.

Cases of facial dermatitis at various stages of recovery are shown in the photographs (p. 537).

Methods of Prevention.—The worst period for the appearance of the disease is in January and February. Burning part of the hill country every year is practised about September on most of the runs, and there is reason to believe that beneficial results have been obtained by so doing. If sheep are removed from the high country during January and February they will

Cases of Facial Dermatitis at Various Stages of Recovery.

often escape the disease. Most of the owners believe that dipping is of value in effecting a cure. The advantage believed to be derived therefrom may reasonably be attributed to the fact that the sheep are removed from the mountains and have already commenced to improve. Carbolic dips would, however, have a good effect on the secondary infection. The two best methods of avoiding the disease are (1) to burn part of the hill country every year and (2) if necessary, keep the sheep in the paddocks for two months after the shearing muster. It is pleasing to report that the former method has been widely adopted for a number of years with encouraging results.

SWINE FEVER

Reviewing the *Pig Breeders' Annual*, which has just been published by the National Pig Breeders' Association, the *Times* observes that it is reassuring to read the article which Mr. P. J. L. Kelland, the Chief Veterinary Officer to the Ministry of Agriculture, has written on the efficacy of Government measures to combat swine fever in this country. The disease is widespread and causes much loss to pig breeders, especially in the eastern counties. Mr. Kelland reviews the experience of the past when, from 1894 to 1914, a prolonged trial was made of a policy of stamping out swine fever by slaughtering affected and contact stock. In 1915 the serum treatment as a preventive against the spread of the disease was adopted experimentally.

The experience of the Ministry over many years has shown that the most fruitful source of the dissemination of this disease is to be found in the congregation of pigs, particularly store pigs, in markets and dealers' premises, and that the most effective check on its spread is secured by the control of the movement of pigs from such premises. The 1922 Order now in force, which restricts the movement of pigs from these premises in those parts of the country where swine fever is most prevalent, coupled with the strict isolation of infected herds, has been effective in reducing the number of outbreaks over a period of years. It is the considered view of the Ministry that the present policy is the right one, but it is recognised that there is urgent need for extended research work on swine fever and other diseases of pigs.

Clinical Communications

POISONING OF ANIMALS BY CYANIDES PRESENT IN SOME INDUSTRIAL EFFLUENTS

G. W. CLOUGH

Many examples have been recorded of the poisoning of cattle and sheep by hydrocyanic acid produced by enzyme action on the cyanogenetic glucoside present in linseed, but very few cases have been recorded of cyanide poisoning caused by the drinking of water polluted by industrial effluents. The rapidity of death, the absence of any obvious lesions on *post-mortem* examination and the swift elimination of the poison from ingesta are the principal points of interest in the following cases.

. . . . .

Two cows were observed to be apparently normal one hour before they were found dead at the place of drinking. No cyanide was found in the stomach contents, but two samples of water contained one grain and one-and-a-half grains of cyanide (calculated as H C N) per gallon; since traces of copper and cadmium were also detected in the water, it is probable that these metals were present as cyanides. The effluent discharged into the drinking water was from electrical works.

Two cows were found dead by a stream from which they had been drinking. A trace of cyanide (1/1,000th part of a grain H C N per pound of rumen contents) was found in the ingesta from one animal. Three samples of water from the stream contained one-quarter grain, one-fifth grain and one-fiftieth grain of cyanide (calculated as H C N) per gallon. The effluent containing cyanide discharged into the stream was from a factory manufacturing photographic materials.

Two cows were found dead by the stream from which they drank. No cyanide was detected in the stomach contents, but a sample of water from the stream was found to contain cyanide corresponding in amount with two grains of hydrocyanic acid per gallon. The polluting effluent discharging into the stream was from an aeroplane factory.

Thirty ducks were liberated from their pens in the early morning; they went to a stream and, when seen an hour later, twelve were dead and others were ill, the dead birds floating on the stream. A faint trace of cyanide was found in the gizzard contents of one bird. Water taken from the stream soon after the ducks died was found to contain six grains of cyanide (calculated as H C N) per gallon; samples taken twelve, 24 and 48 hours later contained three grains, one grain and 0·3 grain of H C N respectively per gallon. Copper was also detected in the water; evidently the cyanide was present as copper cyanide. The water had been polluted by the effluent from a factory manufacturing apparatus for wireless telegraphy.

In this connection an investigation of the poisoning of fish by chemicals in the river Tees is of interest (*Report of the Water Pollution Research Board for the Year Ended June 30th*, 1932). The most important group of discharges into the estuary consisted of coke-oven or similar effluents which were toxic owing to either tar acids or cyanides. More than 1,000 kilos. of the former and 400 kilos. of the latter are discharged daily. The tar acids were never found in sufficient concentration to be toxic to fish, but the cyanides were frequently present in lethal concentrations. It is stated that the gills of the poisoned fish were markedly brighter than normal. A remedy was found by mixing the cyanide-containing effluent in the presence of lime with spent-pickle liquor, which consists mainly of a concentrated solution of ferrous chloride and is produced as a waste product in the cleaning of iron and steel. A large reduction of cyanide is also obtained by spraying the effluent as a fine mist at a temperature of about 60° C.

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SALMONELLA ÆRTRYCKE INFECTION IN CHICKS

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The object of this note is to place on record an outbreak of *Salmonella ærtrycke* infection in chicks.

The chicks were incubator hatched on a poultry farm in the southern half of England, the eggs having been purchased from a farm in the north of Scotland. The chicks were reared in a battery brooder on a mash recommended by a poultry expert. At the age of about ten days several of the birds developed symptoms suggestive of bacillary white diarrhœa.

A batch of four dead chicks was received by us in Liverpool, and a bacteriological examination revealed in each chick an organism which was shown to be serologically identical with *S. ærtrycke*. The identity of the organism was subsequently very kindly confirmed by Dr. W. M. Scott, of the Ministry of Health.

The outbreak remained confined to the chicks from this particular batch of eggs. The badly-affected chicks were destroyed and the remainder kept isolated.

The interesting thing about this outbreak is that the infection seems to have arrived upon the farm with the eggs. In recording an earlier outbreak in this country of *S. ærtrycke* infection in chicks, Doyle (*J. Comp. Path. and Ther.* 1927. **40.** 71-75) says the origin of the outbreak

was not discovered, though the evidence pointed in the direction of artificial manure. He further says that possibly chick food contaminated by mice fæces may have carried infection to the chicks. In the outbreak now recorded food contamination by rats or mice was definitely excluded by the veterinary surgeon in charge as the premises on which the chicks were reared were free from such infestation.

We are indebted to the veterinary surgeon who provided us with the dead chicks and information, and to Dr. W. M. Scott and Major T. Dalling for supplies of ærtrycke antiserum.

SENSE OF HEARING IN ANIMALS

Dr. R. T. Beatty, of the Admiralty Research Laboratory, Teddington, on May 8th, addressed the University of London Animal Welfare Society at the University of London Institute of Education, Southampton Row, on "The Sense of Hearing in Animals." Sir Frederick Hobday, the President of the Society, was in the chair.

The Times **reports that the lecturer said that hearing was, comparatively speaking, a newcomer in animals. It occurred but rarely among the multitudinous tribes of the insect world, and existed only in the most rudimentary form among fishes. As to the hearing of sounds produced in the water, it could be said with confidence that some fish could hear in a dull and undifferentiated way.**

Having traced the evolution of the ear in fish, the lecturer turned to insects, and said that little was known concerning the way in which the auditory nerve in insects was stimulated by the vibrations of the ear-drum. In insects the ears were never to be found on the head. They might occur on the body or on the legs, as in grasshoppers and crickets. In one experiment, a male cricket was made to call up the female by telephone. When the call was put through the female rose in the air and settled down in front of the receiver.

Birds were in a class by themselves in the world of sound. Common singing birds could occasionally be heard to imitate each other's melodies, and sparrows when reared by canaries sang the canary song instead of their own.

Doves had been trained to go to one feeding-box when a musical note was sounded and to another when a different note was sounded, the notes being only a semi-tone apart.

Dogs also had a remarkable capacity for recognising musical notes. They had a sense of absolute pitch which was granted to few human beings. From experiments carried out with dogs it had to be concluded that hearing in man was on the downward grade. In one instance dogs were taught to discriminate between one note, which was a food signal, and a second note which was only a quarter of a semi-tone off the first. Months afterwards the dogs could still pick out the note which indicated food. Large areas in the human brain had been given over to the purpose of interpreting speech, no doubt at the expense of the perception of subtle variations in pitch and rhythm, which was clearly manifest in the case of the dog.

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The new publicity committee of Shorthorn breeders is to be called the "Dual-Purpose Shorthorn Publicity Committee." Names suggesting a single purpose animal have been dropped.

Reviews

[The Early History of Veterinary Literature and its British Development. Vol. iv. The Nineteenth Century, 1823-1860. By the late Major-General Sir Frederick Smith, K.C.M.G. C.B. Edited, with a Memoir of the Author, by Fred Bullock, LL.D. 1933. Pp. xxiv + 161, photographs 12. Published by Baillière, Tindall and Cox, 8, Henrietta Street, Covent Garden, London, W.C.2. Price 15s. net.]

In the introduction to the first volume of this work, which was published serially during the years 1912-18 in the *Journal of Comparative Pathology and Therapeutics*, the author said: "It is my intention to endeavour to trace the history of Veterinary Literature from the earliest known times down to the middle of the nineteenth century, restricting myself, after the period of the Renaissance has been discussed, to the growth in these islands."

Though General Smith did not live to see Vol. iv through the press, it is clear that he did finish what he set out to do, for Vol. iv takes us up to the middle of the nineteenth century.

In the production of this work from the beginning of Vol. i he was greatly assisted by Dr. Bullock, who gave him the benefit of his intimate knowledge of the contents of the R.C.V.S. Library and in many ways, especially his acquaintance with the library of the British Museum, rendered the work more instructive and complete. He continued his assistance during the preparation of the remaining volumes. The author, indeed, was compelled to rely on the willing assistance of friends in the profession to whom, including the reviewer, he addressed many hundreds of letters a year. This goes to show what a will power the General possessed.

The review of the works or writings of others and remarks made thereupon are very interesting and should prove very instructive to the present and future members, who should read, mark and digest every line of the pages of this volume. Many of the recorded writings of our forefathers go to show us that a good deal that is taught us at the present day is not new and that if it had been recognised at its true value by subsequent generations, the art of our profession would have been even more advanced than it is. The pioneers generally had obstacles placed in their way by those whose duty it was to advance knowledge and to illumine the profession, and not merely themselves, before the eyes of the public. General Smith ostracises those with a narrow, unscientific outlook and praises those who endeavoured to advance Veterinary Science for the benefit of the community. If the very few with a wide outlook on our science

had not been checked or choked by the majority who supported the conservative, unprogressive or unscientific views of the so-called leaders, the profession would have been in a higher position in the public eye than it is to-day. He had a high opinion of the Edinburgh school and notably of Dick, Barlow and Stewart, but his greatest praise is bestowed upon John Gamgee, who was the pioneer of veterinary public health, as was William Budd in public health as it concerned man. He was a genius who was thwarted by prejudice born of ignorance or of self-interest. William Hunting said "His [Gamgee's] life was fruitful to all—except himself."

It is interesting to note that Dick (1839) was the first to use iodine internally and externally and Relph (1843) iodide of potassium in actinomycosis, called in those times "clyers" and "scirrhous tongue." In more recent times this treatment is attributed to Thomassen, of Utrecht.

In 1847 Mayhew passed the stomach tube *via* the nostril in the horse and also the catheter in the dog. His work on *The Horse's Mouth, showing the Age by the Teeth* is still the best in the English language. Mayhew was a careful student and if he did not see much he observed a great deal.

There is a lot that practitioners may learn from this volume which is, in the opinion of the reviewer, of practical value. It is also an index to the more important papers in the professional journals up to that period.

Besides a complete list of the papers, articles and books written by Sir Frederick Smith dating from the time he entered the profession, there is a short historical or biographical memoir of the author by Dr. Bullock.

Those who procure this volume and consume its contents will be well repaid. The life of Smith was concentrated on his profession and well might William Hunting write of him many years ago as one of the shining lights of the profession. He left the profession better than he found it and his work is his monument, which will endure for ever, or, rather, as long as any literature is left.

Those who contributed articles, papers or cases to professional journals up to the middle of the nineteenth century did not do so in vain, because they helped with their bricks to build up the foundation of Veterinary Science and Art. General Smith has rescued their labours from oblivion and given them the credit they deserved. Those who have acted as a brake on progress of the profession have deserved the adverse criticism he has cast upon them. May the young men just entering the profession take the life of the author as a pattern to guide them on their path.

[**Lessons from The 'Varsity of Life.** By Lord Baden-Powell. C. Arthur Pearson, Ltd., 16-18, Henrietta Street, London, W.C.2. Price 12s. 6d.]

True manhood or womanhood is a blessed heritage, and a right purpose in life is a consummation most devoutly to be wished. Though life may find tongues in trees, books in running brooks, sermons in stones and good in everything, there still remains the necessity for the mentor with his golden arrow to direct our thoughts into all good ways of living, and the exemplar to indicate that chivalry and nobleness of spirit which counts for so much in a world that is apt to be sordid. Precept and example are factors in life's stock-in-trade that make for a healthy dividend. We find all this in Lord Baden-Powell's latest book. As he rightly points out, Life is one huge university, and the experience gained in that university is as we make it, for better or worse, for richer or poorer.

To all who love the spirit of adventure, pointing a moral and adorning a tale, the book will make a strong appeal. Our Chief Scout has a happy knack of putting things down on paper in a manner that is both pleasing and amusing, and his ambidexterity in writing and sketching is well known to those who are privileged to be his intimate friends or who have borne with him the heat and burden of the day.

The qualities of observation and deduction, the development of endurance, resourcefulness, self-reliance, and loyalty, the promotion of health, the inculcation of common sense, the human touch, the wide conception of the brotherhood of man, are chief among those lessons and are clearly enunciated. Seventy-five "milestones" of life stand to-day as evidence of that great National Movement of Boy Scouts and Girl Guides. There can be no question as to the merits of that movement. Conceived by a master mind and born by a practised hand, it is calculated to do much for international goodwill and understanding. That all who run may read, the purchase of the book is warmly recommended.

BUCKSTON BROWNE RESEARCH FARM

In a modern-built "farmhouse" adjoining the former home of Charles Darwin, at Downe, Kent, problems of human and animal disease are to be studied. It is the Buckston Browne Research Farm of the Royal College of Surgeons, which is to be opened on July 12th, and to which, it is understood, Sir Arthur Keith, the famous anthropologist, will be appointed as master.

To house the scientists who will be doing the work a separate residential building has been erected. The whole cost of the scheme has been defrayed by Sir George Buckston Browne, the famous surgeon, who has provided the college with £150,000, of which £15,000 has been spent on building and equipment, the remainder being kept as a permanent endowment.

ROYAL COLLEGE OF VETERINARY SURGEONS
COUNCIL ELECTION RESULT

The following result of the R.C.V.S. Council Election was announced at the Annual Meeting of the Royal College, held at 10, Red Lion Square, W.C.1, on Wednesday:—

Name.	*Votes.*
Macqueen, J.	970
Hobday, Sir F. T. G.	966
Simpson, P. J.	951
Dunkin, G. W.	895
Nairn, W.	828
Townson, W. K.	816
Simpson, R.	734
Mattinson, A. B.	717
(*THE ABOVE-NAMED WERE ELECTED*)	
Rabagliati, D. S.	650
Glover, R. E.	558

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Irish Free State Veterinary Council Representation

Mr. J. Dodd, the retiring representative of the Irish Free State Veterinary Council on the Council of the Royal College of Veterinary Surgeons, has been returned unopposed.

Abstracts

[Laboratory and Clinical Diagnosis of Canine Distemper. Morris, M. L. (1933). *North Amer. Vet.* *14*, No. 3. 8 tables. 6 charts. 7 refs.]

This paper is the result of two years' work on the use of the blood picture as an aid to the diagnosis of canine distemper. The author states that a diagnosis cannot be made in the early stages either by a rise in temperature, inappetence or by the presence of enteritis and vomiting, but can be determined by an examination of the blood picture.

A study of the nuclear index, this being the relation between the immature and mature polymorphonuclear leucocytes (described by Gerard and Boerner 1930) is the basis on which the author works, and he has found it applicable to the work on distemper.

The author shows what is described as a normal blood picture obtained as the result of a two months' study of 40 clinically normal foxhound puppies ranging from four to seven months of age.

Six charts are given showing the records of six dogs which received no treatment over a period of 32 days. It is noted that the rise in temperature occurs simultaneously with the fall in white blood count and the nuclear index remains below normal throughout the entire course of the disease.

Marked leucopenia was seen in all cases that subsequently developed nervous symptoms and the author is of opinion that there is a direct relationship between the two.

On an average, the blood count was abnormal 15 days before clinical symptoms appeared.

It is concluded that a diagnosis of distemper can be made in that there is a rise in the white blood count during the incubation period as well as a lowered nuclear index.

G. W. D.

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[The Etiology of Periodic Ophthalmia. Leclainche, E. *R. G. de Médecine Vétérinaire.* Vol. xlii. No. 495.]

The author points out that the infectious nature of periodic ophthalmia is purely hypothetical and that the etiology of the disease has never been determined. He reviews the work of von Scilly and his pupils, who found that rabbits injected intracorneally with sterile sheep serum showed an acute keratitis when inoculated intravenously with the same serum two to four weeks later. Similar experiments have been carried out by Manninger on horses, and this author considers that periodic ophthalmia is a toxæmia set up by the absorption of proteins in the large intestine. Gmelin found a heavy ascaris infestation in affected horses and suggests that the parasites may be responsible for the production of albumins giving rise to aphylactic phenomena in the eyes. The author concludes that although proteins may play an important part in setting up periodic ophthalmia it is probable that other circumstances and conditions may intervene.

D. W. M.

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[Microbic Dissociation. Soule, M. H. Bulletin of the Italian Session of the International Society of Microbiology. December, 1932.]

It is pointed out that evidence accumulates to prove the instability of bacterial species, in spite of the tenets of Koch as to their fixity and unalterable character. Mention is made of Pasteur's findings with regard to the chicken cholera organism, to the control of the anthrax bacillus and to the changes impressed on the virus of hydrophobia by animal passage.

The study of bacterial variation has concerned itself for the most part with changes observed in artificial cultures. The types of bacteria appear to a certain extent to be moulded by their surroundings, variation proceeding along the paths of changing environment and that of selection. In the host, stability of the bacterial

species enables the diagnosis of a specific disease to be made by demanding the exhibition of certain definite attributes. Methods for securing variation included such excitants to change as temperatures above the optimum, food substances, volume of the medium, dessication, antiseptics, etc. The author finds the dissociation reaction favoured by (1) using large quantities of broth (1,000 c.c.) and ageing at room temperature; (2) point inoculation on large plates of agar and long incubation; (3) inoculation of large volumes of broth containing hœmologous immune serum. Growth is essential to the dissociative reaction. The majority of the characters remain unaltered.

Three fundamental types of colonies have been demonstrated—smooth-S, rough-R, mucoid-M, and minute or phantom-P. Ability to invade the body is marked in colonies of the S type. In anthrax the R type shows most virulence. P is regarded as a temporary modification and mostly develops into R. When isolated from species ordinarily pathogenic they show no pathogenicity when injected into animals (glanders bacillus, *B. typhosus*, cholera vibrio and others).

The study of bacterial variation has been mostly concerned with changes noted in artificial cultures.

B. pyocyaneus, from the urine of a patient with gall bladder infection, was cultivated for two years in 1,000 c.c. broth, and once a month agar plates were inoculated with the culture, the four colony types of the organism being obtained.

The serological and immunological reactions of the bacteria were related to the configuration of the colonies.

In an outbreak of bacillary dysentery an organism of the Flexner type was recovered from 26 individuals, of whom eight died. The remaining 17 gave similar organisms, but the colony produced was extremely mucoid. All of these patients recovered. This is probably an actual example of *in vivo* dissociation.

W. R. D.

IMPORTED FOOD REGULATIONS

The Ministry of Health has given notice that the Public Health (Imported Food) Regulations, 1933, will come into operation on September 1st, extending the scheme of certification to the edible parts of cattle, sheep, and goats in the same way as to edible parts of pigs. Importation will be prohibited unless it is accompanied by an official certificate of the country of origin which has been recognised by the Minister as affording evidence that the meat to which it relates has been derived from an animal which was free from disease at the time of slaughter, and has been dressed or prepared and packed with all necessary precautions for the prevention of danger to public health.

Report

SOUTHERN RHODESIA

REPORT OF THE CHIEF VETERINARY SURGEON FOR THE YEAR 1932

This report is, we understand, the last which will be submitted by Mr. J. M. Sinclair, who is retiring in the near future after more than 30 years' service in Southern Rhodesia. During this long period the Department under him has performed much useful work and achieved many victories over disease. Glanders, which after the Boer War was very prevalent in the Colony, has been entirely stamped out; bovine tuberculosis is conspicuous by its absence; rabies, which was at one time a most serious menace, has been eradicated; bovine pleuro-pneumonia has also disappeared, and even African Coast fever, which decimated the herds of the country in the early years of the century, is now under control. In one district only, Melsetter, has it presented any difficulty during the past year, this disease elsewhere having yielded to systematic dipping and veterinary supervision of cattle movements. It is probable that no other country can present such a remarkable record, and Mr. Sinclair may well be proud of the results of his efforts.

His last two years of office have been probably the most strenuous and anxious of his career, for in April, 1931, foot-and-mouth disease appeared as " from the blue " in the south-eastern corner of the Colony. By the time it had been reported and correctly diagnosed, it had spread to other parts of Matabeleland, and later gained access to Mashonaland. The exceptional features of the disease, as it occurred in S. Rhodesia, namely, the slow spread of the infection, the indefinite nature of the symptoms, the vast and inaccessible areas invaded and the innumerable native-owned cattle to be controlled, rendered the task of the Veterinary Department extremely difficult. As Mr. Sinclair says in his report, " at the beginning of the year the position in regard to foot-and-mouth disease was most discouraging. Infection existed over practically the whole of the middle and southern sections of the Colony, and was spreading slowly but surely. In the Salisbury and Mazoe districts there were several isolated centres of infection, and here only did there seem any prospect of controlling the disease. We had just started the system of injecting cattle in areas adjoining active infection by the methods recommended by the Director of Veterinary Research, Mr. Ll. E. W. Bevan, *viz.*, contact and the intra-nasal injection of infective blood, but had then no idea whether this system would ultimately prove effective or not." The report then presents the narratives of the

district veterinary surgeons concerned in applying these methods, and terminates with the following résumé: "The direct contact method, that is, the introduction of diseased animals, was carried out on a large scale in the Victoria area with very satisfactory results. In all other areas the intra-nasal method of inoculation was practised. The total number of cattle inoculated during the year was 185,388. The results were extraordinarily satisfactory; the reactions were invariably well marked, practically 100 per cent., excluding calves, and all signs of active infection had generally disappeared in less than four weeks from the date of inoculation. In two instances only was there any variation from the normal reactions; in these, fresh cases of disease continued to appear up to 30 days from the date of inoculation. Inoculation, of course, cannot be successful unless a cattle-free belt is established between the area in which it is being carried out and the surrounding clean country. The method usually adopted was to concentrate the cattle for inoculation and, where feasible, move cattle not in immediate contact with infection outwards, thus creating a cattle-free belt, both sides of which were strongly guarded."

It is pleasing to record that, as the result of these measures, the country was entirely freed from infection within two years of the appearance of the disease. In view of the fact that from the date of the original outbreak to the end of 1932 the total number of cattle involved was, approximately, 795,000 head, this is a remarkable achievement.

"BOVINE TUBERCULOSIS MUST BE CONTROLLED"

Under the above heading the *North American Veterinarian* makes reference to observations passed in a long editorial in the *Journal of the American Medical Association*, prompted by the fight waging in Iowa over bovine tuberculosis eradication. "The author covers the subject of bovine tuberculosis in its relation to public health from the time of Koch's famous pronouncement on the alleged avirulence of the bovine bacillus for man down to the present time; recounts the various references containing the facts about this formerly controversial point in milk hygiene; and urges the medical profession to rally to the support of the eradication programme 'in defence of the public against its own folly.'

"Truly, the Iowa hostility toward bovine tuberculosis eradication is a sad commentary on the education of our adult population in the matter of public hygiene.

"The forms tuberculosis of bovine origin take in the human body are too well known to require discussion here, nor it is necessary to recount the hackneyed arguments invoked against the tuberculin test and against the plans of eradication in operation.

"The veterinary profession has frequently, to its own sorrow, thrown itself into these types of warfare, but it must not retrench. It must join hands with the medical profession in the fight to make this country safe for its children."

N.V.M.A. Divisional Report

CENTRAL VETERINARY SOCIETY

ANIMAL PARASITE FILM AND DISCUSSION AT RED LION SQUARE

A refreshing departure from the routine of paper presentation was forthcoming for the gratifyingly large number of Fellows who attended the May meeting of the Society held on the fourth of the month at R.C.V.S. Headquarters, when Dr. L. E. Robinson, PH.D., A.R.C.S., of the Cooper Technical Bureau, exhibited a cinematograph film showing the commoner internal and external parasites of animals (warble-fly, ticks, sheep-scab, stomach worm, liver fluke, etc.) and practical methods of treatment.

The President (Captain R. J. Stow) occupied the chair, and there were also present Lieut.-Colonel E. P. Argyle, Captain L. S. Balls, Mr. W. Brown, Captain R. E. C. Bullen, Mr. H. E. Bywater, Major C. Davenport, Major W. Denington, Mr. W. Downing, Lieut.-Colonel H. Greenfield, Mr. J. W. H. Holmes, Major W. B. Howe, Mr. H. D. Jones, Miss M. G. Jordan, Messrs. Herbert King, H. C. P. King, Major H. Hicks, Lieut.-Colonel G. P. Knott, Mr. E. G. Langford, Captain W. J. Leyshon, Dr. J. McCunn, Professor James Macqueen, Mr. J. W. McIntosh, Captain G. Dunlop Martin, Dr. F. C. Minett, Messrs. W. Perryman, R. A. Philp, C. R. A. Powell, W. C. Prudames, Vety.-Colonel G. Rees-Mogg, Lieut.-Colonel P. W. Dayer Smith, Dr. A. L. Sheather, Miss K. W. Shedlock, Dr. A. W. Stableforth, Mr. E. L. Taylor, Mr. W. N. Thompson, Captain W. K. Townson, Professor Geo. H. Wooldridge, Professor J. G. Wright, and Captain J. F. Macdonald (Hon. Secretary) together with Mr. W. Rhodes and Dr. L. E. Robinson, as visitors.

Confirmation of the minutes of the April meeting was postponed, pending their publication in the *Record*.

Correspondence.—(1) From Mr. G. H. Livesey, Major-General Sir John Moore, Captain S. J. Motton and Major A. A. Pryer, apologising for their inability to attend.

(2) From Mrs. B. S. Cockerton, returning thanks for the letter of sympathy in the death of her husband addressed to her by the President, on behalf of the Fellows of the Society.

(3) From Captain D. Reid Chalmers, of Tunbridge Wells, resigning from the Society owing to the state of his health.

It was agreed that Captain Reid Chalmers' resignation be accepted with regret, and that he be sent a letter expressing the hope that his health would improve and that he would thus be enabled to resume Fellowship.

MORBID SPECIMENS AND CASES OF INTEREST

Captain L. S. Balls came forward with two exhibits, the first being a live rabbit with an enormous swelling on the quarter. He desired information as to whether the swelling was a tumour, and, if so, whether it was malignant or benign; also whether destruction was indicated. He saw this rabbit first about a month ago, when it had been losing flesh for some time, though it had lost none since.

Captain Balls' second exhibit was an X-ray picture of fractured acetabulum in a dog. The animal never showed much pain and hardly went lame, and in about ten days it went perfectly sound again.

Dr. A. L. Sheather exhibited a portion of lung tissue which he described as being unique in his experience. He had received it from a practitioner, on the previous Monday, who gave him the following history.

An eight-months-old Cairn, on the preceding Saturday night, was somewhat violently sick, but showed no other signs of illness. On the following morning it was found dead, and on *post-mortem* he removed the specimen (exhibited) from the chest cavity. Examination showed that it was the most complete case of pulmonary emphysema it was possible to imagine. At the lower end of the specimen, which represented a piece of the lungs, there was a little patch which was emphysematous lung, but the remainder was one huge air cavity, with the lung tissue completely gone.

That type of acute emphysema was met with in cases of suffocation; particularly in death from drowning, in which, in the respiratory struggle, the air cells gave way in all directions.

Mr. W. Perryman showed the wrist and pad of a dog, which he brought as likely to be of interest because, on several occasions, they had had a discussion on the removal of toes in relation to its effect on the performances of greyhounds.

That animal, three or four years ago, had had the pad badly crushed, the central pads being badly mutilated. He ventured to operate, removing the two phalanges, pad and all, and it was really remarkable how well the wound healed. The specimen illustrated well the reparative ability of an animal's foot after it had been injured; it was also a good illustration of what might be done, even with a badly crushed foot. The animal had died since the last meeting—and, strange to say (in view of Dr. Sheather's remarks, which made the matter a coincidence), from chronic emphysema of the lungs.

Discussion

Mr. E. L. Taylor observed, with reference to the swelling on the hind quarters of the rabbit, that in all probability it was a cœnurus cyst present in the muscles of the hind leg—a very common situation for such a cyst: the next most common place for it was the muscles of the back. These cysts developed very slowly and probably remained alive as long as the rabbit remained alive. He thought the best mode of treatment was to dissect it out, as it was probably placed superficially.

Professor G. H. Wooldridge said that, during the War, when there was much intensive rabbit breeding in domestic circles, they met with a large number of these cases, and he thought that there was no doubt at all that that was a cœnurus cyst. It was a very simple matter to remove it and there was no need to resort to dissection. If the cyst were first aspirated, and then a small incision made, the wall of the cyst could be picked up and drawn through a comparatively small opening: the wound would heal readily.

Professor J. G. Wright stated that on two occasions this year he had been presented with rabbits in which one eye appeared to be pushed out of the orbit. That was due to the presence of the cyst, and it was a simple matter to open the cyst and let fluid escape.

Dr. McCunn pointed out that a very good way in which to anæsthetise a rabbit for a minor operation was to swing him about.

Proceeding, Dr. McCunn said that he did not often disagree with Captain Balls, but he did not think the X-ray photograph exhibited by him revealed any fracture of the pelvis. It was a badly taken picture, and the distortion of the pelvis was simply due to that. It was therefore no matter for surprise that the dog walked so well ten days afterwards.

In reply to Mr. J. W. H. Holmes, Captain Balls said that he did not make a rectal examination.

Professor Wright suggested that a further X-ray picture should be taken, which might show callus formation.

Professor Wooldridge said that, while there was apparently displacement of the head of the femur, he would not be prepared, from an examination of that picture, to reply "Yes" or "No" to the question whether or not there was a fracture.

That exhibit provided a good illustration of the fact that, while X-ray was to be regarded as a first-class aid to diagnosis, it was not all-sufficient, and that clinical examination was essential. If Captain Balls cared to bring that case to the College he would be pleased to examine the case with him, and also to examine it under the screen and see if they could confirm the diagnosis.

Nominations.—The following nominations to Fellowship of the Society were made: Mr. F. D.

Boughey, of Whitham, Essex, proposed by Captain Dunlop Martin, seconded by Captain Balls; Mr. J. O. MacArthur, of South Kensington, proposed by Mr. Holmes, seconded by Mr. Hignett; Mr. G. H. Mills, 2, York Road, Woking, proposed by Captain Dunlop Martin, seconded by Dr. McCunn.

Election.—Mr. W. Rhodes, "Chesterfield," Reigate Hill, Reigate, was unanimously elected a Fellow, on the proposition of the President, seconded by Dr. McCunn.

Animal Parasites: Film Display and Discussion

The President now called upon Dr. L. E. Robinson, of the Cooper Technical Bureau, to present his film. In doing so, the President expressed the hope that the exhibition of the film would be followed by a really good discussion.

In introducing the film, Dr. Robinson said that it had been prepared by Messrs. Pathé under their direction at the Bureau, its purpose being to create a knowledgeable interest amongst farmers in various parts of the country and abroad, in some of the commoner parasites of sheep and cattle.

His hearers would appreciate the difficulty of finding examples of cinematograph photography to order; consequently there were many gaps which they hoped to fill in in the course of time. Parts of the film had been taken in this country, others in America, South Africa and Australia. A great part of it dealt with dipping on a large scale, such as was practised in the big stock-raising areas of the world.

Taking the dipping of sheep, it was exceptional for flocks in this country to exceed 1,200 in number, but in Australia the dipping of one hundred thousand sheep in a day was not at all an uncommon event. Consequently the methods used out there had to be far more expeditious than those which were practised at home; nevertheless, accidents were extremely rare.

A good deal of the trouble associated with sheep dipping in Australia was due to the long journeys to the dipping places. Complaints were often made of the damage caused by "breaks" in the wool, which were simply due to the check in nutrition thereby caused, and which were comparable to the transverse ridges found on human finger nails after acute illness.

Owing to an unfortunate misunderstanding of the instructions to shorten the film somewhat for exhibition that evening, Messrs. Pathé had cut out sections concerning the treatment of warble-fly infestation, which would have been of particular interest to veterinarians. Dr. Robinson concluded his introduction by inviting questions and criticisms after the exhibition of the film.

Captain W. J. Leyshon, who opened the discussion, said that it was not without diffidence that he rose to express his appreciation—a sentiment which he thought all present that evening felt towards Dr. Robinson for his presentation. (Hear, hear.) It was some years (1927) since he had had the privilege of meeting Dr. Robinson and Mr. Prudames and secured an insight into the work upon which they were engaged, which was closely related to their own work in many respects.

He desired to enumerate a few of the animal parasites met with on the skin or horses, particularly in London, but did so with no such object as to offer a dissertation on the differential diagnosis of scheduled mange.

As to lousiness, they found fairly commonly both Hæmatopinus and Trichodectes, which were usually easy to detect by the naked eye.

Regarding acari, during the past four-and-a-half years he had not met with a case of sarcoptic mange, but the psoropt, of course, they had always with them. There was one point he thought worth while bearing in mind when taking skin scrapings from the trunk: it was the possibility of meeting with chorioptic infestation. The symbiote was readily distinguished from the other psoric acari; it was more or less oval in outline; its head was short and broad, whilst with the low power one could detect its almost sessile ambulacral sucker. The male choriopt carried suckers on all legs and its abdominal lobe was more or less rectangular in outline as distinct from this organ in the male psoropt being triangular.

As to the so-called non-psoric acari, any member of the forage groups might be met with and were quite commonly seen in psoroptic mange cases. They differed considerably from the psoric acari; the sessile hook terminating the leg of one of the Tyroglyphidæ being quite a distinct feature. The photomicrographs which he had ventured to bring showed the various anatomical differences mentioned; those of the choriopt were of a mite he had removed from the saddle seat of a suspected mange case in the horse.

The photomicrographs were taken by Dr. McCartney, to whom he was indebted.

Professor G. H. Wooldridge said that he was sure he was voicing the feelings of all the Fellows present when he said to Dr. Robinson that they had enjoyed the film immensely. (Applause.) There were many points in it of very considerable value, apart from its general interest, and he was interested and perhaps just a little disappointed in regard to one caption that he saw, by which, in regard to warble-fly, he was led to expect to see the method of migration of the larvæ from the subcutaneous areas of the limbs, to the back. He had hoped that they would be shown on the screen during migration, in other situations besides the œsophagus. The way in which he generally dealt with the sub-

ject was to gloss it over in much the same way as had been done that evening. (Laughter.) He simply said that these larvæ penetrated the skin of the limbs and were next found in the œsophagus, being then found, again after an interval of two or three months, under the skin of the back. He had hoped that they were going to be shown other intermediate stages. With regard to their situation in the œsophagus, some of the Fellows might remember that he had exhibited to that Society, some time ago, a specimen of the œsophagus showing the larvæ in position in very considerable numbers. If the subject were deemed of special interest, he might bring the specimen down on another occasion. It was indeed a most remarkable migration, and he thought the position of the œsophagus, as being the second site in which the larvæ were found, might be quite sufficient justification for the hesitancy of some farmers of the old school in accepting that they migrated through the connective tissues from the skin and other positions, particularly if they had seen cattle licking themselves as a result of the irritation of the larvæ after they had been hatched out. He himself had no doubt that the theory of their direct migration was the correct one, as was shown by Professor Carpenter, who was teaching zoology at the time he (Professor Wooldridge) was attached to the Dublin College. Professor Carpenter was able to show that when the larvæ were hatched out on the skin and carefully covered over so that they could not be licked off by the cattle, nevertheless migration to the œsophagus took place.

With regard to the use of derris in this connection—and he thought Dr. Robinson, in the course of the film, might have emphasised the point—it had been found to be almost a specific for destroying the maggots in position on the backs of cattle in the early stages of the infestation, in the months of February and March and the early parts of April. Three or four dressings with derris were quite sufficient to destroy them in that position. In this way one destroyed the maggots which would have become flies and had thus stopped infestation for the succeeding year. The cost was about one penny per animal per dressing. In the case of fattening stock, too, the loss was simply enormous, as a result of the interference with that process caused by the "gadding" of the animals when attacked by the fly. He thought, therefore, that veterinarians engaged in country practice should stimulate farmers to adopt that method of prevention.

A great deal of work on warble-fly prevention was carried out under the stimulus of a committee appointed by the Leathersellers' Company, on which committee he had the honour of being the representative of the Royal College of Veterinary Surgeons.

In regard to sheep dipping, he might say that, in his opinion, insufficient stress had been laid on the necessity for collecting all the sheep together well in advance of dipping. Neglect of that precaution was, a few years ago, responsible in Sussex for a great catastrophe amongst some very valuable young pedigree rams, which had been immediately dipped, while breathless. They had been forgotten when the other sheep had been collected, and had been hurriedly fetched by the dogs from distant Downs. He gathered that history afterwards, having been called in the next day because, of these rams, eight or ten were dead and others were seriously ill. He was told by the farmer that they had all been poisoned by an arsenical dip, but on *post-mortem* he found that they had inspirated large quantities of the dip into their lungs, and it was obvious that they had been drowned. Analysis proved the presence of arsenic in the lung alveoli and tissues. That emphasised the point—which was quite clearly brought out in the film—of the importance of not immersing the heads of the sheep until normal respiration had ensued upon the gasps attendant upon the shock of first entering into the dipping bath.

He would conclude by thanking Dr. Robinson very much indeed for the most interesting film he had shown them. (Applause.)

Dr. Robinson, who requested to be allowed to reply to each speaker as the discussion progressed, commented that Professor Wooldridge had made some very useful and valuable criticisms of the film.

With regard to the question of warble-fly, he rather deplored the fact that in the film as shown that evening there was no illustration of treatment by the application of derris wash; unfortunately, that was one of the cut sections of the film, to which he had referred. As Professor Wooldridge had said, in recent years methods had become available which afforded thoroughly effective means for the control of warble-fly. The success which had attended efforts at control by means of derris washes in recent years he thought would convince anybody that a whole-hearted effort over a period of three to five years might see the complete stamping out of this pest in Great Britain and Ireland. In countries like Great Britain its eradication should not be a very difficult matter, for it was a well-known fact that the *Hypoderma* was not in the habit of migrating over long distances. In this connection he would allude to the excellent work done by the Agricultural Organiser to the Worcestershire County Council.

Professor Wooldridge had expressed regret that he had not been able to show them the intermediate stages between the entry of the warble-fly maggot into the skin and the discovery of its encysted phase in the gullet. No one regretted that more than he (Dr. Robinson) did. Anyone who had attempted to work on

the life-history of the warble maggot in the body of the host would appreciate the enormous difficulties. Professor Carpenter, in Ireland, spent a great deal of time on the problem, and the second man whose name was to be associated with that research was Professor Seymour Hadwen, of Canada, who had devoted a great deal of time to the study of *Hypoderma* in cattle, and made similar investigations in reindeer in Alaska. Professor Hadwen had succeeded in describing the stages of migration from the gullet to the subcutaneous tissues of the back, but not in tracing the course followed by the larvæ after they had penetrated the skin and before they established themselves in the neighbourhood of the gullet. If the larvæ were carried in the blood stream, as had been suggested, it might be expected that they should be found in the lungs, but no evidence had been forthcoming that they were ever found in the lungs; therefore they were forced to the conclusion that larval migration took place by way of the connective tissues and probably subcutaneously. He would call attention to the fact that encysted larvæ might be found in other parts of the body, though the majority were found in the neighbourhood of the gullet.

It had been his lot to discuss the question of warble-fly control with farmers in this country, and many were enthusiastic on the subject and would be willing to carry out anti-warble-fly measures, were they assured that others would do the same. One was bound to admit that if the cattle on one farm were dressed and those on the surrounding farms were not dressed, there was a possibility that the farm might suffer from infestation from the surrounding farms in the following season. Nevertheless, it was worth while for any farmer to dress his stock if there were any serious warble-fly infestation, for the mere destruction of the larvæ wrought a wonderful improvement in the condition of the animals.

The effect of the maggot on the hide was, however, disastrous. Nowadays there was a very big demand for split ox hides, the outer part being used extensively for motor car upholstery, and for that purpose large sections of unblemished skin were required. A single warble hole rendered such a section quite useless. That fact had led to a great demand for hides from the Continent. In Denmark, the practice of treating warble-infested cattle was compulsory. As to whether or not it was a desirable thing to make dressing for warble maggots compulsory in this country also, he was not prepared to say, but he knew that many influential farmers in this country would welcome legislation making compulsory the dressing of all warbled cattle.

With regard to the importation of animals from overseas, he thought there was nothing to be feared in respect of animals from Ireland. In the Southern Hemisphere *Hypoderma* was unknown, and doubtless many of them had seen the suggestion put forward of the possibility of legislation being introduced there in stock-raising countries, south of the equator, with regard to the importation of British cattle. In Australia, many veterinarians were becoming rather anxious lest larvæ carried in British cattle should manage to survive the winter season, become adult flies, and, becoming acclimatised, start the infestation there.

With regard to the subject of sheep dipping, Professor Wooldridge had rightly emphasised the necessity of allowing driven animals time to become cool and quiet before immersion in the dipping bath. He himself had seen many instances, such as Professor Wooldridge had described, of animals being driven to the bath, in hot weather, placed in the dip immediately, and deaths ensued. He had also seen instances in which sheep had been driven away immediately after dipping in hot weather, and had collapsed on the way back to the farm. A very high percentage of deaths might occur in such cases, and *post-mortem* showed symptoms of traumatic pneumonia or of arsenical poisoning —of course, where arsenical dips had been used—but the same remarks applied with equal force to carbolic dips. The worst dipping accident that had been brought to his notice had been caused by a carbolic dip, and there they found the same thing, *viz.*, that over-heated sheep had been carelessly thrown into the cold dip, with the result that the liquid was inspired into the lungs and traumatic pneumonia followed.

Professor J. G. Wright observed that he thought they should not let the opportunity pass —in view of Dr. Robinson's knowledge of parasites and parasiticides—of getting his opinion of the efficacy of the respective parasiticides against the various types of parasite. He wished Dr. Robinson would give them some idea of the respective merits of arsenical dips and phenol dips in the treatment of both insect and acarine parasites, and also the strength of the respective dips used.

Derris had been mentioned—they must thank Dr. Robinson's firm for the introduction of derris as a parasiticide. Its toxic action on insects, such as fleas and lice, was amazing, and it had quite replaced all other parasiticides for this purpose. He (Professor Wright) questioned, however, its toxicity to the mange acari.

They had observed *Notædres cati* living and active after immersion in derris emulsion for an hour; they had found the same with 2½ per cent. tincture of iodine, and liquor potassæ. They had found that the proprietary sulphur preparation "Odylen" (Bayer) killed the parasite in 17 minutes.

He would like Dr. Robinson also to give them his opinion as to the danger which arose from the absorption of the dip through wounds.

Dr. Robinson replied that Professor Wright had raised a big subject, with which it would be impossible to deal adequately in the time at his disposal. He supposed that they were all agreed that there was no universal parasiticide: the more those parasites were studied, the more one was impressed with the specific reaction of different agents. Professor Wright had spoken of derris and had remarked about its astonishing proficiency against insects, yet even among the insecta they found certain forms that were resistant to derris. When they came to the subject of sarcoptid mites, however, he was in absolute agreement with what Professor Wright had said: derris had a very low order of efficiency.

Having commented upon the efficacy of a certain popularly-named preparation for which his firm was responsible, in cases of louse and flea infestations in the dog, Dr. Robinson proceeded to say that another question that had been raised in countries abroad was with respect to the treatment of tick infestation in dogs. In some countries many dogs were lost every year from piroplasmosis, transmitted by the tick, and the question arose as to the value of derris for tick control in dogs. Excellent results had been reported from the use of derris-containing preparations in India and South Africa. Dogs were very tolerant of arsenical dips: he had dipped dogs of all ages at intervals as short as three days in a dip containing arsenious oxide 0·15 per cent. without any ill effect.

Professor Wright had asked him if he could give some indication as to the efficacy of the different insecticides against different parasites. For the generality of ecto-parasites infesting domestic animals, derris preparations were usually highly effective. He knew of only one instance of low efficiency, and that was in infestation of sheep by the biting louse *Trichurjs ovis*, but against that particular parasite an arsenical dip acted like a charm. There appeared to be little doubt that derris acted as a respiratory poison, and they knew that certain insects had developed means of protection against the entrance of foreign substances into the respiratory system. This might afford an explanation of the resistance of certain germs.

With regard to the various types of dips in use, they might take it that those in general use were fairly universal in their application. The arsenic-sulphur powder dips, or the carbolic dips, gave reasonably satisfactory results all round in farm work. For special purposes it might be necessary to make a particular choice. He agreed that sulphur was a very active agent for the destruction of sarcoptid parasites. There was no question whatever that in the treatment of scabies in sheep—and he thought it applied to sarcoptic infestations, and other forms—no more effective preparation had been found than lime and sulphur. Yet this material had many disadvantages. It was not an easy matter to prepare the solution in proper concentration, owing to the variable nature of the lime, yet it had been recommended for many years that farmers should make their own lime and sulphur dips. There was no practical difficulty about it, but it was by no means a cheap method of preparing a dipping bath, and unless the materials used were up to standard the dip would be both ineffective and injurious to the wool.

When they came to consider the relative merits of the arsenic and sulphur dips and the carbolic dips, he would say that in general dipping as practised in this country he did not think it mattered very much which dip the farmer selected. In dipping for sheep-scab and louse infestation he would elect to use an arsenic and sulphur dip in preference to a carbolic dip. It was also a fact that immersion in an arsenical dip had a marked tonic effect on the sheep.

Where ticks were concerned they had no choice: the only effective agent for tick control in sheep and cattle was arsenic.

In regard to wounds, they came to the very interesting subject of arsenical absorption. He thought they might take it that all authorities were now agreed that arsenic in aqueous solution was only absorbed in an infinitesimal amount through the intact skin, but that through a raw surface, or even an acutely inflamed skin, arsenical absorption took place very rapidly. That was a thing frequently seen in sheep dipping, especially if sheep were subjected to an overstrength dip at the first dipping. The mere condition of erythema of the skin was sufficient to render the skin susceptible, for a skin in that first degree of inflammation would absorb arsenic, whereas a normally healthy skin would not.

He would like them to bear in mind that they had also to consider, in connection with dipping, the possibility of bacterial wound infection. The dipping baths, as used in Australia, for instance, might become exceedingly foul, and the amount of organic matter which accumulated must be very large because arsenic in the strength used in a dip was not a very potent antiseptic.

Brief reference was made to the oxidation of sodium arsenite in cattle dipping baths, with the consequent risk of loss of efficiency and uncertainty as to strength.

Veterinary-Colonel Graham Rees-Mogg, speaking as the owner of cattle and sheep, expressed his gratitude to Dr. Robinson for his most interesting film demonstration and subsequent observations. He desired to ask him if it was

a good thing to add sodium carbonate to a hard water, when one was making up a dip. Another point was whether spraying fruit trees with arsenical preparations rendered an orchard dangerous to animals that subsequently grazed there.

Dr. Robinson replied that there was no necessity whatsoever to add sodium carbonate to any bath containing an arsenical or an arsenic and sulphur dip. Where hard water had to be used for the dilution of carbolic dips, sodium carbonate was useful as a softening agent. As a rule, something of the order of one or two pounds of soda to every hundred gallons of water would suffice to render the water reasonably soft.

With reference to the question of spraying fruit trees with arsenic, arsenate of lead was commonly used, and that was a relatively insoluble compound of arsenic. Although the suggestion had often been made that the herbage might be rendered poisonous, he could not recollect a single instance of arsenical poisoning having been placed on record from that cause. Nevertheless, although he regarded the possibility of poisoning being induced by the ingestion of herbage below arsenically-sprayed fruit trees as being very remote, it would, he thought, be unwise to turn stock or poultry into an orchard immediately after a spraying had taken place, it being preferable to wait until rain had washed the arsenic from the herbage down into the soil.

Mr. E. L. Taylor said that he was particularly interested in Professor Wright's and Dr. Robinson's contributions on the matter of the use of derris powder for the killing of parasitic acari. They would probably have noticed, in the January number of the *Cornell Veterinarian*, a paper on the wonderful results obtained from the use of the extracted active principle of derris powder on several parasites. This active principle, known as rotenone, was shown to be very toxic for fish: he believed it was claimed that a solution of 1-20,000,000 was sufficient to kill goldfish in two-and-a-half hours. The writer went on to say that he had tried it for demodectic mange and found it to be very effective.

There had been several references in the French literature to wonderful results obtained from the active principles of pyrethrum flowers, known as pyrethrine No. 1 and No. 3, No. 1 being the more potent. It was claimed that these extracts would kill insects in very dilute solution, and also parasitic worms and acari: indeed, almost everything except the host. It had been claimed that the active principles of derris root and pyrethrum flowers were toxic for cold-blooded animals and quite harmless for warm-blooded animals, in which case they appeared to be ideal anthelmintics.

He had tried one or two experiments in the use of the extract of pyrethrin, and to his surprise found it to have no action whatsoever on parasitic worms, although it was extremely potent for insects: it killed mosquito larvæ in a solution of only 1-200,000. He then tried the extract of pyrethrum for the killing of acari, but was rather surprised to find that it had no effect whatsoever, a finding which fell into line with those of Professor Wright and Dr. Robinson.

He might say that in order to control the action of pyrethrum in the killing of cold-blooded animals, he tried a few tadpoles in a 1-200,000 solution, and found that in a very short time they showed incoördination in their movements: he supposed it was a neuro-toxin of some kind that was responsible.

When dealing with the matter of warble-fly infestation, Professor Wooldridge had pointed out that the damage was not entirely confined to the destruction of the best part of the hide, but that also a considerable amount of damage was caused by the gadding of the cattle in the summer time. He (Mr. Taylor) thought that that aspect of the damage caused by the warble-fly was one particularly calculated to appeal to the farmer, and that it should therefore be stressed in approaching him for his co-operation in the task of the eradication of this parasite. It was a very curious thing that animals should be so terrified of these œstrid flies; but it was a fact that also applied to deer and reindeer, among other animals.

Dr. Robinson had mentioned one of the warble-flies of the southern hemisphere—dermatobia. That fly was apparently so hard put to in the matter of laying its eggs on the desired host that it had to resort to a curious ruse: it did not lay its eggs on the host it desired to attack, but on a mosquito, and it was interesting to notice that the natives had for long known that fly as the "mosquito fly." On the mosquito alighting on the desired host, the larvæ left their transporter and got on to the host and began to puncture the skin. It was supposed that the origin of this curious habit was to be found in the terror which all animals experienced on the approach of those flies.

A Swedish investigator had carried out some experiments to ascertain whether the reindeer also stampeded for any other kind of fly, such as *Tabanus*, but satisfied himself completely that it was not only for the bot fly that the reindeer had this extraordinary terror. He wondered what Dr. Robinson's opinion would be on that point: as to whether in this country the cattle would flee from the approach of such a large fly as *Tabanus bovinus*, or whether the gadding was entirely confined to attacks by species of *Hypoderma*.

Professor Wooldridge referred to Colonel Rees-Mogg's enquiry as to the toxicity to animals grazing in orchards, of fruit sprays containing

lead arsenate. He thought he was right in saying that, although cattle and horses had been poisoned thereby, such cases were confined to instances in which the spraying had been carried out in a high wind, and the spray had been carried over from the orchards to adjoining pasturage.

Mr. Taylor had referred to the toxicity of derris, but he (Professor Wooldridge) did not quite follow whether Mr. Taylor agreed that derris was non-toxic for the warm-blooded animals. [Mr. Taylor: "I have gathered that from the literature."] He would say very definitely that that was incorrect: he had had very serious results from the use of derris not only in dogs and cats but in squirrels.

With regard to the use of derris in acarine infestations, he might mention that the late Sir Stewart Stockman carried out a great deal of work in that connection, and his results were that derris was of very little value. The same applied to its use in demodectic infestation. He (Professor Wooldridge) had systematically tried out derris extract in the treatment of follicular mange but, except in one case, the results were no better than one might get with various other parasiticides.

Dr. Robinson observed that he thoroughly endorsed Professor Wooldridge's remarks in regard to the toxicity of derris. The comparative immunity of warm-blooded animals to the toxic effect of derris was due to its limited solubility: derris given in a vehicle that would ensure its absorption was a potent poison. He was well aware of cases of toxicity having been observed in warm-blooded animals resulting from the application to their skins of derris powder, and that it was by no means true to say that derris was non-poisonous in all circumstances.

With regard to the observations made by Mr. Taylor on the anthelmintic value of derris and the pyrethrins, he too, had carried out experiments and had found that neither had any discernible anthelmintic action. There again, he thought that possibly that question of the activity of respiration came in: the forms of insect life found to be most susceptible were usually those forms in which respiration was a very active physiological function. With respect to Professor Wooldridge's question on the toxicity of lead arsenate spray, he could well imagine that if arsenical spray were allowed to drift on to herbage that was being grazed at the time by cattle, there might be a strong risk of arsenical poisoning.

As to the necessity of adding soda to arsenical dips, the use of soda with arsenious oxide had been alluded to, but arsenious oxide alone was never used; its use would be impracticable on account of its low solubility.

Votes of Thanks.—On the call of the President, the meeting accorded Dr. Robinson a very hearty vote of thanks for his attendance, for exhibiting the most interesting film, and for his exceedingly informative replies to the questions raised in discussion. The lantern operator was also thanked. Similar tributes to those who had brought *post-mortem* specimens and to the President for his conduct in the chair, concluded a most enjoyable meeting.

J. F. Macdonald, *Hon. Secretary.*

SOUTH AFRICAN VETERINARY MEDICAL ASSOCIATION

The following extracts are taken, as likely to be of interest to our readers, from the Report of the Hon. Secretary-Treasurer (Dr. H. H. Curson) presented to the 24th General Meeting of the above Association, which was held at Johannesburg on April 13th, 1933:—

"Mr. J. Walker, M.R.C.V.S., has retired from the position of Director of the Kabete Laboratory and intends to settle down in private practice in a Union town. He is to be congratulated on having recently obtained the degree of Dr. Med. Vet. Zürich. Mr. D. Laurence, B.V.SC., is to succeed Mr. L. Bevan as Director of the Veterinary Research Laboratory, Salisbury. He is our only member in Southern Rhodesia and we rejoice at his success.

"Captain W. S. B. Clapham has been transferred to the Department of Defence. He will direct transport, supplies and veterinary services. Through the efforts of the Association the rank was raised from Lieutenant to Captain, but no success attended efforts to obtain professional allowance, as is the case of the S.A.M.C. and S.A.V.C. (A.C.F.). Efforts must still be made to get some sort of an allowance. It is to be regretted that the badge of the S.A.V.C. does not appear on the Services journal, the *Nongquai*. Captain Clapham will no doubt see to this, and to the formation of veterinary units (A.C.F.) in every military district!

"All municipal veterinarians are members of the Association, *e.g.*, Colonel Irvine-Smith, A. C. Kirkpatrick and Dr. G. Martinaglia (Johannesburg); J. Forrest (Capetown); N. M. Clayton (Bloemfontein); and Messrs. Dykins and Harber (Durban). Major Barnes, of Durban, has our appreciation for his loyalty to the profession, and all good wishes in his well-earned retirement. Efforts should be made to appoint whole-time municipal veterinarians at Port Elizabeth, East London, Kimberley, Pietermaritzburg and Pretoria.

"The *Journal of the S.A.V.M.A.* is published quarterly, and the Editorial Committee guards the reputation of the profession both in South Africa and abroad. The *Journal* is the only private veterinary publication in Africa.

"Thanks chiefly to Dr. H. Reitz, M.P., the Minister of Agriculture, and an atmosphere of

conciliation in the House of Assembly (brought about by Mr. Tielman Roos), the Veterinary Bill passed its third reading on February 17th, 1933. Thus have our efforts for legal recognition, initiated in 1902, at length borne fruit! The Parliamentary Committee has many other matters to supervise and now that the Veterinary Act is through time should be available for their consideration. (A joint sitting of both Houses finally passed the Bill on March 2nd, 1933.)

"The coat-of-arms was accepted at the 23rd General Meeting. The motto "*Pristinæ virtutis memores*" was selected at a referendum held in November, 1932.

"Thanks are due to Dr. Fred Bullock, LL.D., for his assistance in supplying information, chiefly historical, regarding the profession in South Africa. I am also indebted to Messrs. F. Knight and W. Brown, of the National Veterinary Medical Association of Great Britain, for many courtesies.

"Although the 22nd General Meeting did not approve of the formation of a special Standing Committee of Council to concern itself with State veterinarians' interests, I am bringing up the matter again as the Status Committee, being so busy, is unable to give time to matters such as abolition of free quarters, etc. Other State matters require attention, *e.g.*, pensions.

"Mr. S. Jackson, the Hon. Secretary, writes as follows: 'A very successful and well-attended general meeting of S.A.V.M.A. (Natal Branch) was held at Pietermaritzburg on June 24th, 1932. As this was the first Branch meeting, the President, Mr. C. J. van Heerden, gave a brief summary with regard to the formation of the Society. The usual business matters were dealt with and a set of Branch rules drawn up. The following papers were then read: (1) "Ultra Violet Rays in Veterinary Practice," Mr. S. Amos; (2) "Chase Valley Disease," Mr. J. Thorburn; (3) "Some Common Poultry Diseases," Mr. A. S. Canham.

"Approximately 50 State veterinarians are members of the Public Servants Association. Obviously, if all were, our influence in Service matters would be greater. I have applied to the Protechnical Section, P.S.A., for S.A.V.M.A. representation on its Council. If successful, I consider that the Secretary (my successor, Dr. Fourie) should be our representative.

"Thanks to Mr. C. Jackson, the S.A.V.M.A. Library (kindly accommodated by the D.V.S. at Onderstepoort) is growing. Mr. Jackson has kindly taken charge of the Association pictures, some of which are in the Committee Room Library, Onderstepoort, and others in my keeping. It is hoped the D.V.S. will allow the latter to be placed in the Common Room Library, Onderstepoort.

"The D.V.S. has kindly allowed certain articles of historical interest to be placed in exhibition cases in the Library, Onderstepoort.

"The Council S.A.V.M.A. is the S.A. National Council for the International Veterinary Congress.

"Private members often complain of competition from State veterinarians. Reprint 61/1932 Department of Agriculture makes it clear that this action is not approved officially.

"Owing to the assistance of Mr. H. M. Brown, B.V.SC. (thus incidentally saving the Association £15 p.a.), I have been able to devote some time to the history of the profession. The following papers have appeared:—

"(*a*) 'The Repatriation Departments and their Veterinary Organisation.'
"(*b*) 'Some Pioneers of the Veterinary Profession in South Africa.'
"(*c*) 'The Struggle for Legal Recognition.'
"(*d*) 'History of the Transvaal Veterinary Medical Association.'
"(*e*) 'History of the Cape Veterinary Medical Association.'
"(*f*) 'History of the Natal Veterinary Medical Association.
"(*g*) 'Veterinary History of the Cape Colony Volunteers.'
"(*h*) 'Veterinary History of the Natal Volunteers.' (In the press.)
"(*i*) 'Veterinary History of the Transvaal Volunteers.'
"(*j*) 'Veterinary History of the Cape Colony Police.'
"(*k*) 'Veterinary History of the Transvaal Police.'
"(*l*) 'Veterinary History of the Natal Police.'
"(*m*) 'Veterinary History of the O.R.C. Police.'
"(*n*) 'Signatures of some Veterinary Pioneers.' (In the press.)

"Up to the present the S.A.V.M.A. has always pursued a cautious policy, but now that the Veterinary Bill is through Parliament, it should (in my humble opinion) assert itself more, *e.g.*, in regard to both public and private affairs."

A campaign promoted by Mr. G. W. Howie, Agricultural Organiser for the Isle of Man, has made such progress within a few months that 71 per cent. of the milk producers of the island are now supplying milk that conforms to the English Grade A standard. The campaign is being backed up by advertising, with the object of securing an increase in the consumption of milk.

* * * * *

A "Drink More Milk" campaign, organised by the Irish Dairy Shorthorn Breeders' Society, is to be conducted on vigorous lines throughout the Irish Free State. The Government is giving strong support to the scheme, and it has been arranged for milk instead of cocoa to be supplied in schools where free meals are given to children.

XUM

N.V.M.A. Congress at Llandudno, September 18th-23rd, 1933

PROVISIONAL PROGRAMME

The following is the Provisional Programme of the Association's Congress, to be held at Llandudno from September 18th to September 23rd:—

MONDAY, 18TH, *9.30 a.m.*—Opening of Exhibition of Surgical Instruments, Drugs, etc., by the President. (Town Hall.)
MONDAY, 18TH, *10 a.m.*—Opening of the Congress by the Chairman of the Urban District Council of Llandudno. (Town Hall.)
MONDAY, 18TH, *11 a.m.*—Combined Meeting of Public Health, Experimental Pathology, and Veterinary Medicine and Surgery Sections, to discuss further the subject of "Vaccination against Bovine Contagious Abortion and the relation of this Disease to Undulant Fever in Man."
MONDAY, 18TH, *9 p.m.*—Reception by President.
TUESDAY, 19TH, *9.45 a.m.*—Paper: "The Significance of (*a*) Acid-fast Bacilli, (*b*) *Bacillus coli*, in Milk."
TUESDAY, 19TH, *11.30 a.m.*—Paper: "Johne's Disease, including Johne's Disease in Sheep."
WEDNESDAY, 20TH, *9.45 a.m.*—Paper: "Meat Preservation."
WEDNESDAY, 20TH, *11.30 a.m.*—Paper: "Helminths of Economic Importance in Farm Animals, excluding Poultry."
—Excursion for Ladies.
WEDNESDAY, 20TH, *2.30 p.m.*—Council Meeting, Town Hall.
WEDNESDAY, 20TH, *3.30 p.m.*—Annual General Meeting, Town Hall.
WEDNESDAY, 20TH, *7.30 p.m.*—Annual Banquet.
THURSDAY, 21ST, *9.45 a.m.*—Paper: "Diseases and Accidents referable to the Hunting Field and to the Turf."
THURSDAY, 21ST, *11.30 a.m.*—Paper: "Fractures and Dislocations in Small Animals."
THURSDAY, 21ST, *2.30 p.m.*—Demonstration on Meat Inspection of Animals, *ante-* and *post-mortem*—Harold Burrow, M.R.C.V.S., D.V.S.M. (Public Abattoir, Llandudno.)
THURSDAY 21ST, *Evening.*—Dance in aid of Veterinary Benevolent Funds.
FRIDAY, 22ND, *9.45 a.m.*—Paper: "The Relationship of Poultry Diseases to the Practitioner."
FRIDAY, 22ND, *11.30 a.m.*—Paper: "Swine Fever and Enteritis in Young Pigs."
SATURDAY, 23RD, *9.45 a.m.*—Council Meeting.
SATURDAY, 23RD, *10.15 a.m.*—Closing Meeting.

SUBJECTS FOR PAPERS

PUBLIC HEALTH SECTION

(*President*: *Lieut.-Colonel J. W. Brittlebank*, C.M.G., M.R.C.V.S., D.V.S.M. (VICT.).
(*Vice-President*: *Major D. S. Rabagliati*, O.B.E., B.SC., F.R.C.V.S., D.V.S.M.)
(*Recording Secretary*: *P. F. Dolan, Esq.*, M.R.C.V.S., D.V.S.M.)

1.—"The Significance of (*a*) Acid-fast Bacilli, (*b*) *Bacillus coli*, in Milk."
By G. O. Davies, M.V.SC., M.R.C.V.S., D.V.H., Liverpool.
Opener: Captain H. L. Torrance, M.R.C.V.S., D.V.S.M., Nottingham.
2.—"Meat Preservation."
By Dr. W. R. Wooldridge, M.SC., M.R.C.V.S., London.
Opener: T. Moran, D.SC., PH.D., Low Temperature Research Station, Cambridge.

VETERINARY MEDICINE AND SURGERY SECTION

(*President*: *Captain R. L. Lewis*, M.R.C.V.S., D.V.H.)
(*Vice-President*: *Captain J. Cane*, M.R.C.V.S.)
(*Recording Secretary*: *Captain O. V. Gunning*, D.V.M., M.R.C.V.S.)

1.—"Helminths of Economic Importance in Farm Animals, excluding Poultry."
By Captain A. W. Noel Pillers, F.R.C.V.S., D.V.S.M., Liverpool.
Opener: Captain N. Bisset, M.R.C.V.S., Cardiff.
2.—"Diseases and Accidents referable to the Hunting Field and to the Turf."
By Major A. A. Comerford, M.R.C.V.S., Potton.
Opener: Captain E. Brayley Reynolds, O.B.E., M.R.C.V.S., Newmarket.
3.—"Fractures and Dislocations in Small Animals."
By Professor J. McCunn, M.R.C.V.S., M.R.C.S., L.R.C.P., London.
Opener: C. Wentworth Elam, M.R.C.V.S., D.V.H., Liverpool.
4.—"The Relationship of Poultry Diseases to the Practitioner."
By Norman Dobson, B.SC., M.R.C.V.S., Weybridge.
Opener: G. C. Marginson, M.R.C.V.S., D.V.S.M. (VICT.), Whitestake.

EXPERIMENTAL PATHOLOGY SECTION

(*President*: *Professor J. F. Craig*, M.A., M.R.C.V.S.)

(*Vice-President*: *Major R. Isherwood*, M.R.C.V.S.)

(*Recording Secretary*: *Dr. A. W. Stableforth*, M.SC., M.R.C.V.S., D.V.S.M.)

1.—"Johne's Disease, including Johne's Disease in Sheep."
By Dr. F. C. Minett, M.B.E., M.R.C.V.S., London.
Openers: Major G. W. Dunkin, M.R.C.V.S., D.V.H., Mill Hill; H. Llewelyn-Jones, M.R.C.V.S., Denbigh.

2.—"Swine Fever and Enteritis in Young Pigs." By J. O. Powley, M.R.C.V.S., Harrogate.
Opener: F. Beckett, M.R.C.V.S., Blandford.

COMBINED SECTIONS

(*President*: *Professor J. Basil Buxton*, M.A., F.R.C.V.S., D.V.H.)

(*Vice-President*: *William Woods, Esq.*, F.R.C.V.S.)

(*Recording Secretary*: *Harold Burrow, Esq.*, M.R.C.V.S., D.V.S.M.)

"Vaccination against Bovine Contagious Abortion and the relation of this Disease to Undulant Fever in Man."
By Dr. W. H. Andrews, M.R.C.V.S., Weybridge.
Openers: Captain S. J. Motton, F.R.C.V.S., Penzance. (From the Practitioner's point of view.)
Captain J. McAllan, M.A., B.SC., M.R.C.V.S., Belfast, and Sir Weldon Dalrymple-Champneys, Bart., M.D., M.R.C.P., Ministry of Health. (From the Public Health point of view.)
L. E. W. Bevan, M.R.C.V.S., London. (From the Experimental Pathology aspect.)

LIST OF HOTELS AND BOARDING HOUSES

Hotels

Grand Hotel, *Promenade* (licensed), from 21s. per day.
Imperial Hotel, *Promenade*, from 18s. per day.
St. George's Hotel, *Promenade* (licensed), from 16s. 6d.* per day.
(* Subject to a special discount of 10 per cent.)
Marine Hotel, *Promenade* (licensed), from 16s. 6d. per day.
Queen's Hotel, *Promenade* (licensed), from 16s. 6d. per day.
The Hydro, *Neville Crescent, Promenade* (licensed), from 18s. per day.
Royal Hotel, *Church Walks, Promenade* (licensed), from 15s. per day.
Craigside Hotel, *Little Orme, Promenade* (licensed), from 15s. per day. (Free 'bus service to and from town.)
Clarence Hotel, *Gloddaeth Street* (licensed), from 15s. per day.
North Western Hotel, *Vaughan Street* (licensed), from 16s. 6d. per day.

Private Hotels (PH) and Boarding Houses (B)

GRAND PROMENADE:

North Parade—
The Links, from 12s. 6d. to 15s. 6d. per day.
Moseley, 10s. 6d. per day.
Claremont (B), from 10s. 6d. per day.
Knowsley (PH), from 11s. per day.
Belle Vue (PH), 10s. 6d. to 12s. 6d. per day.
Waverley (PH), from £3 3s. per week.
Parade House, from 10s. 6d. per day.
Kensington (B), from 9s. 6d. per day.
Latimer (PH), from 10s. 6d. to 12s. 6d. per day.
The Manor (B), 7s. 6d., to 9s. 6d. per day.
Rothesay (PH), 11s. 6d. to 14s. 6d. per day.
Min-y-don (B), from 10s. 6d. to 12s. 6d. per day.
Osborne (PH), from 13s. 6d. per day.

South Parade—
Clovelly (PH), from 10s. per day.
Merrion, 9s. to 10s. 6d. per day.
Wyecliffe (PH), 10s. 6d. to 12s. 6d. per day.

Glanymor Terrace—
Brinkburn (PH), from 10s. 6d. per day.
Egryn (PH), 10s. 6d. to 12s. 6d. per day.

St. George's Crescent—
Elsinore (PH), from 11s. 6d. per day.
Trevone (B), from 7s. 6d. to 10s. per day.
White House (PH), from 10s. 6d. per day.
Regent, 9s. per day.
Somerset (PH), from 10s. 6d. per day.

Gloddaeth Crescent—
Chatsworth House (B), 9s. to 13s. 6d. per day
Toronto (PH), 10s. 6d. to 12s. 6d. per day.
St. Kilda (B), 12s. per day.
Ingleboro (PH), 10s. 6d. and 11s. 6d. per day.

Deganwy Avenue—
Glencoign, 9s. to 10s. 6d. per day.

Neville Crescent—
Aberford (B), 10s. 6d. per day.
Heath House (PH), from 7s. 6d. per day.
Seaforth (PH), from 10s. 6d. per day.
Crescent (PH), from 10s. 6d. per day.

Penrhyn Crescent—
Four Oaks (Temperance), from 12s. per day.
Sefton Gate (PH), from 10s. 6d. per day.
East Lynne (B), from 9s. per day.
Claremont, from 10s. per day.

Craig-y-don Parade—
The Craig-y-don, from 12s. 6d. per day.
Ormescliffe, 13s. 6d. to 17s. 6d.

Trinity Square—
"San Remo," 9s. to 12s. 6d.
"Abbeydale," 9s. to 12s.

Abbey Road—
"Whitefriars," 8s. 6d. to 9s. 6d.

Chapel Street—
Glascoed, from 9s. 6d. per day.

Rhos-on-Sea
(4 miles)

Rhos Abbey Hotel, from 16s. 6d. per day.

Colwyn Bay
(4 miles)

Colwyn Bay Hotel, from 23s. 6d. per day.
Imperial, from 13s. 6d. per day.

Rhyl

Pier, from 12s. 6d. per day.

Conway
(4 miles)

Castle Hotel, from £5 5s. per week. (***En Pension* terms.**)

Notes and News

The Editor will be glad to receive items of professional interest for inclusion in these columns.

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DIARY OF EVENTS

June 10th.—Meeting of the Scottish Metropolitan Division, at Perth.

June 12th.—Meeting of the Editorial Committee, N.V.M.A., at 2, Verulam Buildings, Gray's Inn, W.C.1, at 4.30 p.m.

June 12th.—D.V.S.M. Oral Examination.

June 17th.—Meeting of the North of England Division, N.V.M.A., at Newcastle-on-Tyne.

June 20th.—Meeting of the North Midland Division, N.V.M.A., at Sheffield.

June 21st.—Meeting of the Western Counties Division, N.V.M.A., at Truro.

June 28th.—Summer Meeting of the Lancashire V.M.A., Ironbridge Hotel, Eaton Park, near Chester.

June 30th.—Final date for payment of Annual Fees to R.C.V.S.

July 5th.—R.C.V.S. Committee Meetings begin.

July 6th.—Meeting of Council R.C.V.S. for election of President and other Officers.

July 7th.—R.C.V.S. Quarterly Meeting of Council.

July 10th.—R.C.V.S. Membership Examination begins.

Sept. 18th-23rd.—N.V.M.A. Congress, Llandudno.

Sept. 25th-26th.—R.C.V.S. Jubilee Memorial and Bursary Prize Examination.

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R.C.V.S. Annual Meeting

The increased attendance, which was yet woefully inadequate to the occasion, at this year's Annual Meeting—the Ninetieth—of Members of the Royal College of Veterinary Surgeons, held at Headquarters on Wednesday, was assuredly in greater part a tribute to the affectionate esteem in which Sir John M'Fadyean, upon whom the President conferred the Honorary Fellowship of the College, is held. To this impressive feature of the proceedings we shall make detailed reference in an early issue, but in regard to the Council election, the results of which were announced on the same occasion and which are reproduced on page 541 of this issue, we may perhaps now venture to comment that this year's markedly increased poll would appear to indicate a gratifying improvement in the degree of interest taken by the members of the profession in the affairs of the governing body. The loss of Major Rabagliati will be deplored by many, on and off the Council, but hearty congratulations will be extended to Captain Townson and Major Mattinson upon achieving success at their first attempt.

* * *

PERSONAL

King's Birthday Honours.—In the official list of honours conferred by the King on the occasion of his sixty-eighth birthday, the veterinary profession is represented by one recipient, *viz.*, John Frood Lamb, Esq., M.R.C.V.S., Superintending Inspector, Diseases of Animals Division, Ministry of Agriculture and Fisheries, who is made a Companion of the Imperial Service Order. It is also of interest that a laboratory assistant at the Royal Army Veterinary School, James David Crisp, Esq., receives the British Empire Medal (Civil Division) for meritorious service, and that Risaldar Mohamed Yakul Kahn, Indian Army Veterinary Corps, in charge of the Military Veterinary Hospital, Karachi, becomes a member of the Order of the British Empire (Military Division).

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Will.—Hume, Mr. Andrew, M.R.C.V.S., of Haddington (personal estate), £6,620.

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LONDON CART-HORSE PARADE

Amongst the most popular Bank Holiday events was the holding of the Annual Parade of London Cart Horses in Regent's Park, and the number of entries and the high character of the display showed how largely, in spite of the competition of mechanical vehicles, the horse is maintaining its popularity. The entries—more than 700—were slightly fewer than in 1932, but, considering the depression in trade, the number was regarded as very satisfactory. The standard of the exhibits was stated by the judges to be higher than last year. The horses, gaily decorated with coloured ribbons, paraded with their vehicles in the inner circle of the park.

Sir Walter Gilbey, President of the London Cart Horse Parade Society, who presided at a luncheon, said the parade proved conclusively that the horse was an absolute necessity to the trade and commerce of the country. On a previous occasion he referred to the slackness of both sexes in regard to their attire when riding. As a result he had received over 2,000 letters and over 1,000 newspaper cuttings on the question of the attire of riders in the Row. They came even from Japan. He did not wish to be egotistical, but he had seen an improvement, although he regretted that there was still a large number of the "no hat brigade."

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"ENGLISH DOCTORS OF VETERINARY SCIENCE, UNIVERSITY OF ZURICH"

In reference to our note published under the above heading in our last issue, Dr. Hedley C. D. Golledge writes to inform us that he was a student and graduate at Zurich University, and obtained his doctorate degree there. He does not hold an honorary degree as was stated.

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DEATH OF CAPTAIN N. B. GREEN, M.R.C.V.S.

Mr. David Brown, M.R.C.V.S., Kilwinning, Ayrshire, writes: "I regret to inform you that a member of our profession in the person of Captain N. B. Green, Irvine, Ayr, died recently. Graduating at Glasgow, on April 27th, 1885, Captain Green used to carry on an extensive practice,

but disposed of it a number of years previous to the outbreak of the War, and was engaged in the grain trade in a business which is still carried on by his daughter. He had been in failing health for some years previous to his death.

"I intended sending you this information some time ago, but it will perhaps be of interest to some members of the profession to know of his death."

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RESEARCH DEFENCE SOCIETY

The Research Defence Society will hold its annual general meeting at the London School of Tropical Medicine, Keppel Street, W.C., on Thursday, June 22nd, at 3 p.m. The chair will be taken by Lord Lamington, the President, supported by Sir Arthur Stanley, Chairman of Committee. The seventh Stephen Paget Memorial Lecture will be delivered by Sir Leonard Rogers, F.R.S., on "The Saving of Life and Suffering due to Medical and Veterinary Research, with Special Reference to the Tropics." The lecture will be illustrated by lantern slides. Tea will be served after the lecture, and visitors are invited.

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Veterinary Inspection News

CO-ORDINATION OF VETERINARY SERVICES

County and City of Aberdeen and Kincardineshire

The question of the co-ordination of the veterinary services of the county and city of Aberdeen and Kincardineshire was discussed at a meeting of the Aberdeen County Council held on May 27th, and the amalgamation was agreed to, an amendment to remit the matter back being defeated by 31 votes to 20.

The Public Health Committee submitted a report containing the results of the conferences that had taken place between the sub-committee appointed by the committee, and representatives of Aberdeen Town Council and Kincardine County Council, on the question of co-ordinating the veterinary services of the three authorities.

It was stated (says the *Aberdeen Press and Journal*) that in the regional medical service schemes recently adopted by these local authorities the principle was accepted that, as and when circumstances permitted, there should be a co-ordination of veterinary services on a basis to be mutually arranged between the three authorities. The office of veterinary officer for the city of Aberdeen being presently vacant, it appeared that the present juncture was opportune for consideration as to whether it was desirable to institute a regional veterinary service for the area.

The financial proposals showed a total maximum of £2,250 for the chief regional veterinary officer, three assistants, and clerical assistance, allocated three-eighths to the Town Council of Aberdeen, one half to Aberdeen County Council, and one-eighth to Kincardine County Council, each County Council to be responsible for the payment of travelling and subsistence expenses incurred in respect of work in its area.

Mr. Frederick Martin, moving approval of the scheme, said the question of amalgamating the veterinary services of the county with the city of Aberdeen and Kincardine had been under consideration for some time, and it had become urgent recently because the city authorities, who had not had a permanent veterinary officer for some months, had decided that the question of amalgamation be settled now, or they must go on with the appointment.

The real reason for the suggestion made in the recommendations was that it was thought to be desirable to secure a more adequate administration in the county of the Milk and Dairies Acts, and he made it quite clear that there was no suggestion whatever in the proposal that there was any cause of complaint with regard to the flocks and herds of Aberdeenshire. The reputation of the county in respect to the health of its cattle stood as high to-day as ever it did, and nothing in the proposals implied any reflection on the health of the cattle in the county. It was really to secure more adequate administration with regard to the Milk and Dairies Acts and the Tuberculosis Order in the interests of the public health of the community.

There were in the county of Aberdeen 43,000 cows and heifers, and about 125,000 bovine animals of other kinds. It was, in respect to cow population, the second county in Scotland. Only one county had a bigger population, and that was Ayrshire, with 57,000 cows and heifers. In Aberdeenshire for the purpose of carrying out the Milk and Dairies Act and Tuberculosis Order they had one veterinary officer; in Ayrshire they had, for 57,000, four full-time veterinary officers.

It might be argued that they had also at their service the local veterinary practitioners, and that was, to a certain extent, true, but while the veterinary practitioners were bound to report to the local authority cases of tuberculosis in cattle, they were in no sense compelled to go out and look for such cases. That could only be done by the whole-time veterinarian.

In the county there were 565 registered dairies, and these accounted for about 9,000 cows and heifers of the 43,000. That meant that they had over 30,000 other cows and heifers which were not in registered premises, and were not under present circumstances subject to regular inspection. With one veterinary inspector it was possible for him to make only one routine examination per annum in the registered dairies; he was quite unable to do anything with over 30,000 animals in other premises in the county. They would see, therefore, that if they were to have any sort of adequate inspection of the animals, they must increase the present veterinary staff.

In Aberdeenshire they spent £21,000 a year in the treatment of tuberculosis, and if they could reduce the possible source of infection even to a very small extent, they would have a financial return which would compensate for any additional expenditure.

Dr. C. W. Sleigh seconded, and emphasised that they needed extra veterinary assistance. They inspected the registered herds only once in 13 months, and were not inspecting the unregistered dairies at all.

With regard to the financial aspect, they were to pay only £990 for two inspectors, and were getting at least double the service they were having just now, while they were paying just now £927 for one inspector.

Mr. Wm. Valentine, Inverurie, moved an amendment to the effect that the report be taken back. He said he had always been in favour of the scheme, but not on the basis proposed. They were supplying the city of Aberdeen at no cost to the city, and his contention had always been since the passing of the Tuberculosis Order in 1925, that if they were giving a suitable supply to the city they should join the county and share part of the burden.

Mr. James Mearns, seconding, said that Mr. Martin had stated that Aberdeenshire was one of the leading counties in the matter of the health

of its cattle, and if that was the case then there must be something wrong in the claim for an amalgamation of the veterinary services. He asked who was to be the head of this new organisation. If it was the Medical Officer of Health, he had enough to do at present, and why put more burdens on his shoulders ?

The vote resulted as recorded above.

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The Position in Essex

The *East Anglian Daily Times* reports that the question of the appointment of a whole-time veterinary inspector for dairy herds in the county was considered at a recent meeting of the Diseases of Animals Sub-Committee of the Essex Agricultural Committee.

Mr. F. Dent, Chairman of the Essex Agricultural Committee, said this was the most important subject they had had before them for a long time. Some counties had routine inspections of dairy herds by county veterinary officers, and very satisfactory results were being obtained. The cost was a good deal, but it resulted in a reduction in the amount of compensation paid. The Public Health Committee of the County Council had considered the matter, and he understood they were recommending the appointment of a part-time veterinary officer, but that recommendation might be withdrawn. He suggested the appointment of a Joint Committee of the Diseases of Animals Sub-committee and the Public Health Committee to thresh the whole matter out, so that a concrete proposal could be put before the County Council. It would be a very good thing if they could start the nucleus of a county veterinary service.

Three interests were affected—the Diseases of Animals Sub-committee, the Public Health Committee, and, in a smaller way, the Education Committee. If such a scheme was to be successful they must have the support of the milk producers, and that implied the backing of the Farmers' Union. He did not think they would find much opposition.

After discussion, Mr. Dent's suggestion was agreed to.

It was reported that, during the quarter ended March 31st, there were 273 cases of tuberculosis confirmed, and the amount of compensation payable was £1,664 14s. 9d., in respect of 316 animals slaughtered. The Ministry refunded £1,248 11s. 1d., and £329 5s. was obtained in salvage, leaving £86 18s. 8d. to be borne by the county.

It was further reported that 86 cases of swine fever were reported during the quarter, but only six confirmed; and three cases of parasitic mange were confirmed. The Chairman said the report was very satisfactory, and redounded to the credit of their veterinary officers.

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East Sussex Discussion

A suggestion that the veterinary inspection of milch cattle should be transferred from County Councils to a central organisation in London created some discussion at the annual meeting of the East Sussex Agricultural Committee at Lewes. The matter arose from a letter from the County Councils' Association, who stated that they had been invited by the Cattle Diseases Economic Advisory Council to submit a memorandum of evidence on matters affecting the Milk and Dairies Order.

Mr. T. Hayward (Deputy Clerk to the County Council) said it was suggested that the veterinary services under the Milk and Dairies Order should be transferred to a national organisation as opposed to the local services as a means of reducing diseases among milch cattle and the incidence of bovine tuberculosis, and of providing for the regular clinical inspection of cattle throughout the country. It was pointed out that it was not contemplated that the functions of local authorities under the Milk and Dairies Order should be affected.

Mr. H. S. H. Burdett-Coutts expressed the view that the Committee should strongly oppose the idea of a central veterinary service, and moved a resolution accordingly. He thought it would mean a considerable increase of expenditure. The Ministry at present exercised a certain amount of supervision.

The motion having been seconded, a member said the West Sussex Committee had opposed the matter tooth and nail.

It transpired that a number of complicated questions were submitted, and Mr. Burdett-Coutts expressed the view that the Committee could not possibly answer all of them. He withdrew his resolution.

Alderman C. H. S. Ellis, J.P. (Chairman of the County Council), thought the suggestion meant less economy and less efficiency.

Subsequently it was decided to refer the matter to the Diseases of Animals Sub-Committee, in consultation with the Chairman of the County Council and the Chairman of the Public Health Committee.

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VETERINARY NEEDS OF THE HIGHLANDS AND ISLANDS

In a recent issue of the *Oban Times*, a correspondent drew attention to the urgent need which existed for a veterinary surgeon in the Island of Skye. In a subsequent comment on the position, the paper states: "This is probably true in regard to several of the Western Islands and Highland districts. The reason that no veterinary surgeons practice there is that even in prosperous times only a very poor living is to be made. Most young veterinary surgeons qualifying to-day go in for either County or Government work in preference to practice, and especially to country practice. . . . In the Highlands and Islands very long distances have to be travelled, and road-toll, ferry and steamer charges are very high. A veterinary surgeon is compelled to add these to his fee and it is very hard for, say, a smallholder, to meet it.

"In most country districts the practising doctor receives quite a substantial salary for his various services as Local Medical Officer, and has a fixed rate for his panel. He also receives a mileage grant from the Highlands and Islands Medical Services Fund in many cases. Were it not for these grants it is unlikely that a doctor would practice in many of the less populous Highland districts.

"At present there is no doubt that there is a serious loss of stock in the Highlands and Islands which might be prevented if proper veterinary services were available at a reasonable figure, and it is to be hoped that either the Local Authorities or the Government will take steps to see that the same assistance is given to veterinary surgeons in the Highlands and Islands as is afforded to their medical colleagues. Stock raising is the leading industry in the Highlands, and should, it is felt, receive due encouragement and recognition."

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ARMY VETERINARY SERVICE

London Gazette—War Office—Regular Army

June 2nd.—Lieut.-Colonel L. M. Verney, D.S.O., F.R.C.V.S., having attained the age limit fixed for

compulsory retirement, is placed on retired pay (June 2nd); Major R. W. Mellard, D.S.O., to be Lieut.-Colonel (June 2nd).

REGULAR ARMY RESERVE OF OFFICERS

June 6th.—Colonel W. A. Pallin, C.B.E., D.S.O., F.R.C.V.S., having attained the age limit of liability to recall, ceases to belong to the Reserve of Officers (June 6th).

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PROMOTION EXAMINATION

The results are announced of the examination (in written subjects) of officers with a view to promotion in the Regular Army, which was held at Home Stations in March. The successful R.A.V.C. candidates were Majors F. R. Roche Kelly, W. St. J. F. Macartney, and G. A. Kelly; Captain F. W. Goodall; Lieuts. A. A. Kidd, J. R. Stewart, and P. A. Reeves.

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CANCER RESEARCH

At the annual meeting of the Royal Institute of Public Health, which was held on June 3rd, at Eastbourne, Dr. Cronin Lowe spoke of the work being carried out with his test for cancer. Professor Sir Thomas Oliver, the chairman, said that Dr. Lowe's modification of the Bendien Vanadium test constituted an advance on the Bendien system. Dr. Anthony Margian said that the test made it possible, in many cases, to arrive at a diagnosis which could not be reached at the same early period by other means.

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H.M. STATIONERY OFFICE PUBLICATIONS

The undermentioned have been published recently. Copies can be purchased through any bookseller, or directly from H.M. Stationery Office, at the following addresses:—London: Adastral House, Kingsway, W.C.2, and 28, Abingdon Street, S.W.1; Cardiff: 1, St. Andrew's Crescent; Manchester: York Street. Edinburgh: 120, George Street.

	Price Net s. d.	*Post Free.* s. d.
WAR OFFICE:—		
Veterinary Corps, Royal Army, Regulations for Admission, May, 1933. (57-9999) ...	0 3	0 3½
PUBLIC AND GENERAL ACTS:—Ch. 66. Milk and Dairies (Consolidation). (Reprinted, 1933)	0 4	0 5

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HOME OF FIFTEEN BREED SOCIETIES CHANGES HANDS

Number 12, Hanover Square, London, the home of the leading Breed Societies, has been sold, and in eight years' time, if not earlier, 15 breed and kindred societies will be looking for a new abode, writes a contributor in the *Farmer and Stock-Breeder*. It is understood that the purchase price was £52,000, and that the buyer is a member of a firm of estate agents of Copthall Avenue.

Until recently the owners of the property were the Great Western Railway Company, who let it to the Royal Agricultural Society, who, in turn, sub-let it to the Shire Horse Society. In consideration of the fact that none of the societies was working for a commercial profit, the rent was exceptionally low—£330 per annum—and tenancy was limited to breed and kindred societies. The present tenants are the Shire Horse, Shorthorn, Smithfield Club, Sussex Cattle, British Kerry Cattle, English Guernsey, Hunters' Improvement, Hackney Horse, National Pony, National Horse Association, Cart Horse Parade, Van Horse Parade, National Cattle Breeders' Association, Large Black, and Kent Sheep. Until this year the International Horse Show also had rooms there.

The house is "run" on co-operative lines by a House Committee, the chairman and secretary of which are respectively chairman and secretary of the Shire Horse Society.

Since the lease will not expire until 1941, the societies have time to look out for fresh premises. No plan has at present been formed, but it is probable that preference would be given to a scheme which enabled the present tenants of No. 12 to continue their association in any fresh premises.

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The eighth annual Macalister Lecture will be delivered at the National Temperance Hospital, on Thursday, June 22nd, at 9 p.m., by Sir Frederick Hobday, on "Our Animal Friends as Patients," illustrated by lantern slides and cinematograph pictures. All medical and veterinary practitioners are invited to be present, and may bring friends (ladies or gentlemen).

Correspondence

Letters to the Editor should reach the Office not later than by the first post on Tuesday morning for insertion in following Saturday's issue.

All correspondence must bear the name and address of the contributor for publication.

The Editor does not hold himself responsible for the opinions of his correspondents.

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"DRY MOUTH"

TO THE EDITOR OF THE VETERINARY RECORD.

Sir,—I think the above condition must be more generally recognised than is suggested by Lieut.-Colonel H. T. Ryan, though probably under different names.

Last Thursday, the 2nd inst., as I was driving through a field leading up to a private training stable, I noticed a filly being driven on long reins and frothing considerably at the mouth. Having finished my work, I stood talking to one of the men when the filly came into the yard and pulled up close to me, and I noticed some horse hair showing on the bit, and when the bridle was removed I saw the hair was tied round the bit. In reply to my enquiry as to its purpose the groom told me that the filly would not bridle, was very dry in the mouth, and "tried to swallow her tongue," so he tied the hair round the bit to make the saliva run. He added that, by this means, a horse would always come to the bridle after a few days. Evidently this method was known to a good many people, but the knowledge is gradually dying out with the horse.

Whilst on the subject of controlling horses, I may mention that there is a method of overcoming the trick some horses have of lying down and refusing to get up. The idea was my own as far as I know, and was born in desperation. I was breaking a pony and he refused to draw a log about the field any more; after being pulled about a bit, he rolled over on his side and refused to get up.

Thrashing was, and is, useless and unprofessional; the use of fire, as suggested in most trial books, is the same. What was to be done? It suddenly occurred to me that if I could manage temporarily to deprive the horse of breath he would have to struggle and get to his feet—he could not help himself.

The pony had a halter on; I took a half hitch round the muzzle just sufficiently low down to

close the nostrils, and pulled tight: in about one minute the pony was on his feet. He tried the same trick three times and then gave it up for good.

There is usually a trick to meet every trick, if only one knew it. I once had a thoroughbred mare, an absolute jade, with a great objection to pulling even an American buggy. If she jibbed the only thing was to jerk her mouth as hard as possible with the reins. She would rather pull the buggy than have that done.

Yours faithfully,
ARNOLD SPICER, F.R.C.V.S.

New Oxted,
Surrey.

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TO THE EDITOR OF THE VETERINARY RECORD

Sir,—On the Curragh, in the summer of 1921, I was shown a case of " dry mouth " in a polo pony. Many different bits were tried, but he would respond to none of them.

Two pieces of stout muslin, little more than 1-in. square, were stitched together into a small bag, which was packed with chlorate of potash, and further stitched securely to the port of the bit.

This was put on just before play commenced, and the pony salivated well, responded to the bit, and gave his rider a better game than he had ever done before.

The owner was so satisfied with the result that he had several similar bags made, and purchased a quantity of chlorate of potash from a local chemist.

I regret that I lost all subsequent trace of the animal, and never heard if a permanent cure was effected.

Yours faithfully,
THOMAS LISHMAN.

23, Queen's Gate Gardens,
S.W.7.

June 2nd, 1933.

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VETERINARY INSPECTION OF DAIRY CATTLE

TO THE EDITOR OF THE VETERINARY RECORD

Sir,—The letter from Mr. J. H. Wynne in this week's *Veterinary Record,* gives us a quotation *re* Compensation for Loss of Office by our part-time inspectors. I hope the men involved will calculate the amount they are likely to receive; they will be surprised to find how little they are entitled to.

This phase of the argument is not the principal one. What we want to know is the effect on the profession, and particularly, what is going to be the fate of the country practitioner and the agriculturalist, should whole-time men take over all public work, as well as such things as the Tuberculin Test.

The men holding part-time appointments may get their small compensation now, and thereafter and for all time all men engaged in private practice will be alike.

Can private practice be engaged in successfully in a county where there is a large staff of whole-time men? The answer is to be found in Mr. Lancaster's letter of the same issue. Our profession is too small to afford one class of practitioner, heavily subsidised by County councils, and who, in their name, can take over duties which the ordinary country practitioner could do much better.

I would suggest that the R.C.V.S. might appoint a sub-committee to take evidence at different centres of the country. First-hand information would be got from men who cannot afford to travel to London. I would suggest that the first meeting be held at STIRLING, the place where the practitioners of Scotland meet when matters affecting their well-being have to be discussed.

Yours faithfully,
JAMES F. TAYLOR.

Cathkin,
Rutherglen.
June 3rd, 1933.

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TO THE EDITOR OF THE VETERINARY RECORD

Sir,—I am indebted to Mr. Wynne for calling attention to Section 16 of the Milk and Dairies (Consolidation) Act, 1915, in your issue of yesterday.

In the rough draft of my letter in your issue of May 27th, I had referred to this Section, in connection with other Acts concerning Local Government, but, as I feared having encroached too much on your space, I hurriedly abridged my letter, and omitted to quote this important Section.

The statement in the penultimate paragraph of that letter, that, " I have no doubt that any part-time inspectors displaced are legally entitled to compensation," was not merely the dogmatic statement of a layman, but is the considered view of more than one member of the legal profession.

Yours faithfully,
A. B. MATTINSON.

Friars House,
Bamber Bridge, Preston.
June 4th, 1933.

The Editor acknowledges, with thanks, the receipt of the following:—

Reports of meetings of the Midland Counties Division, N.V.M.A., and the V.M.A. of Ireland, from Captain H. W. Dawes, and Professor J. J. O'Connor, respective Hon. Secretaries.

Communications from Mr. H. S. Caldwell (Newcastle-under-Lyme), Major-General Sir John Moore (London), Professor G. H. Wooldridge (London), and Professor J. G. Wright (London).

Advertiser's Note

" PROLAN "

In view of the great importance of sterility in domestic animals to the farmer, the breeder, and, consequently, to the veterinary surgeon, a whole series of methods of treatment has been worked out. These methods were based on numerous systematic examinations, and some have become the common property of the veterinary profession. In quite a high percentage of cases, however, where the cause of the sterility could not be attributed to any recognisable disease, treatment met with no success in the past. It was only through knowledge recently gained in the field of hormone research that the cause of these cases of sterility was discovered and, at the same time, the road to successful treatment indicated.

The stimulating effect of the inner secretory products of the posterior pituitary lobe on the smooth muscles, especially on the uterus, has, of course, been known for some time. Recent research on the hormones of the anterior lobe showed that these principally influence the ovaries. The administration of these hormones to young female animals brings about sexual precocity. The uterus becomes considerably enlarged, the formation and ripening of the follicles are hastened and the usual œstrus signs are visible on the vagina.

In adult animals, too, the administration of the anterior pituitary hormone, which is issued under the name " Prolan," stimulates the quiescent ovaries to new follicle formation and development and, in conformity with the ovarian cycle, heat, vaginal discharge and sexual desire are called forth.

" Prolan " also influences the genital functions in the male sex and is administered in cases of sexual debility, including impotence and similar symptoms due to hypo-pituitarism.

The manufacturers have succeeded in standardising " Prolan," and this makes accurate dosing possible. The product is issued in ampoules containing a definite number of Rat Units. A Rat Unit is the quantity of " Prolan " which will cause heat in the infantile rat within six to seven days.

" Prolan " (Veterinary) is obtainable from Bayer Products, Ltd., 19, St. Dunstan's Hill, London, E.C.3, in boxes each containing two ampoules of 125 Rat Units and two ampoules of 5 c.c. distilled water for preparing the solution. The preparation is injected subcutaneously. One injection usually suffices.